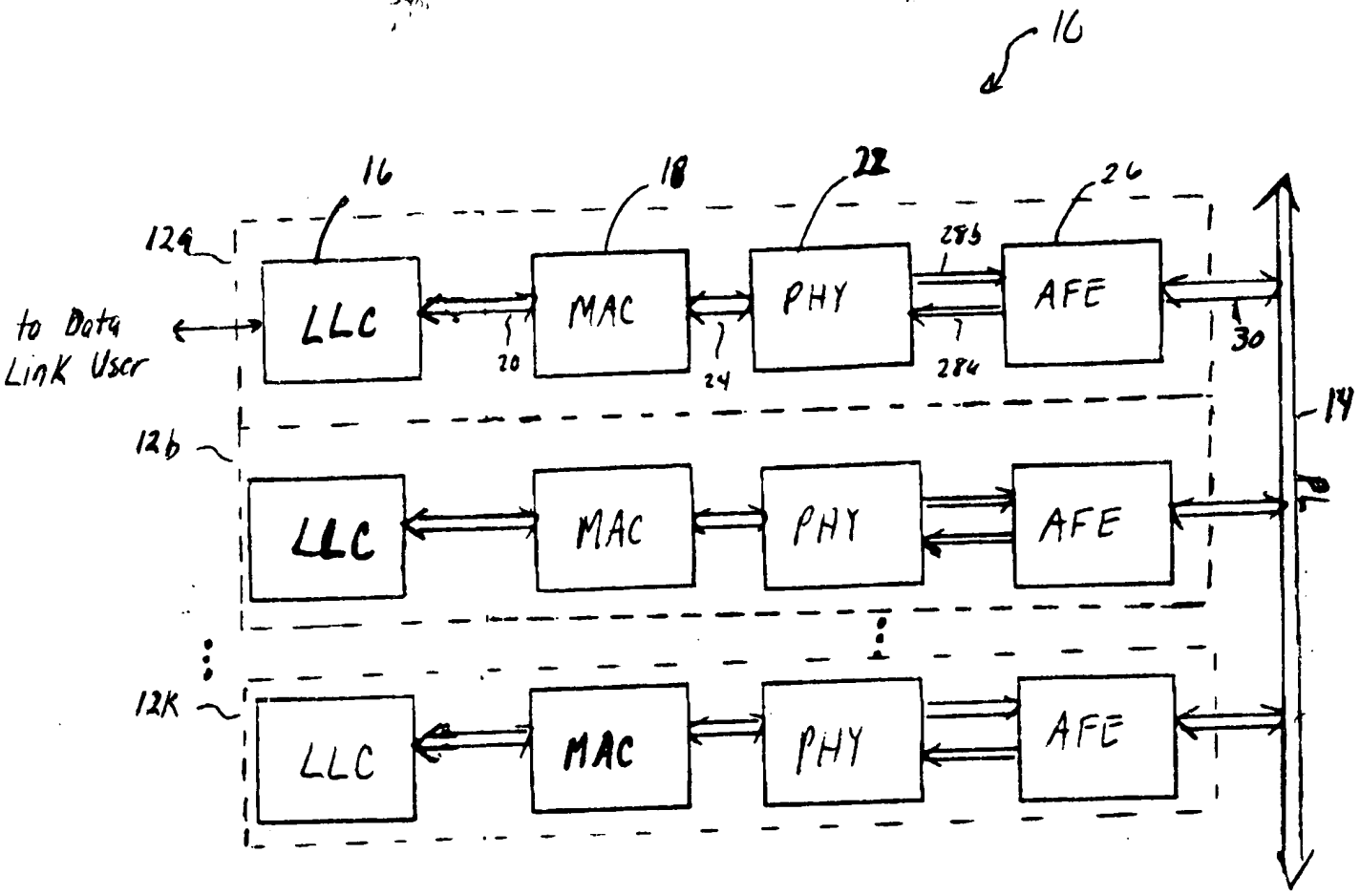
16
16
18
22
26
12a
28b
to Data
Link User
LLC
MAC
PHY
AFE
20
24
28a
30
14
12b
LLC
MAC
PHY
AFE
12K
LLC
MAC
PHY
AFE

FIG. 1

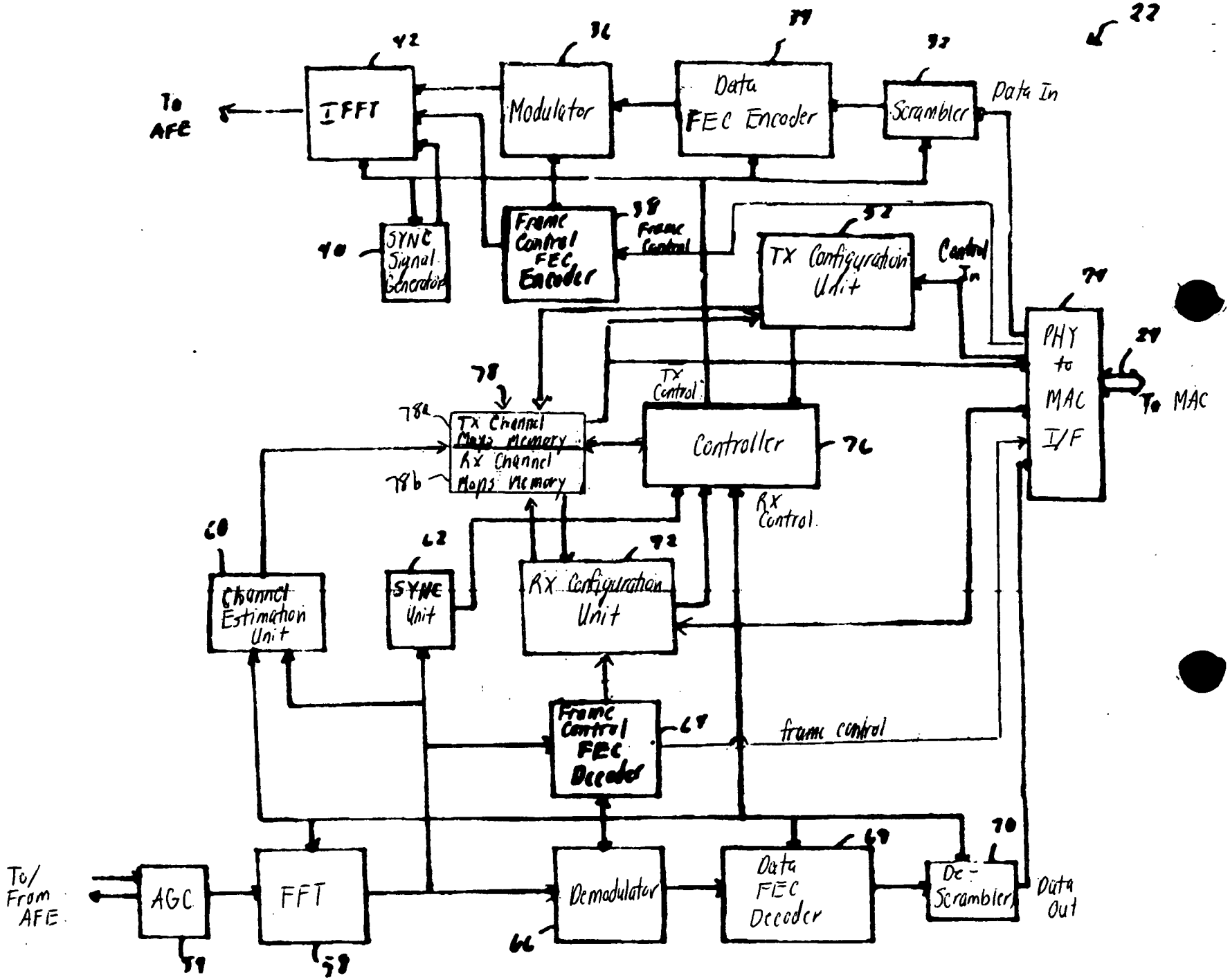

FIG. 2

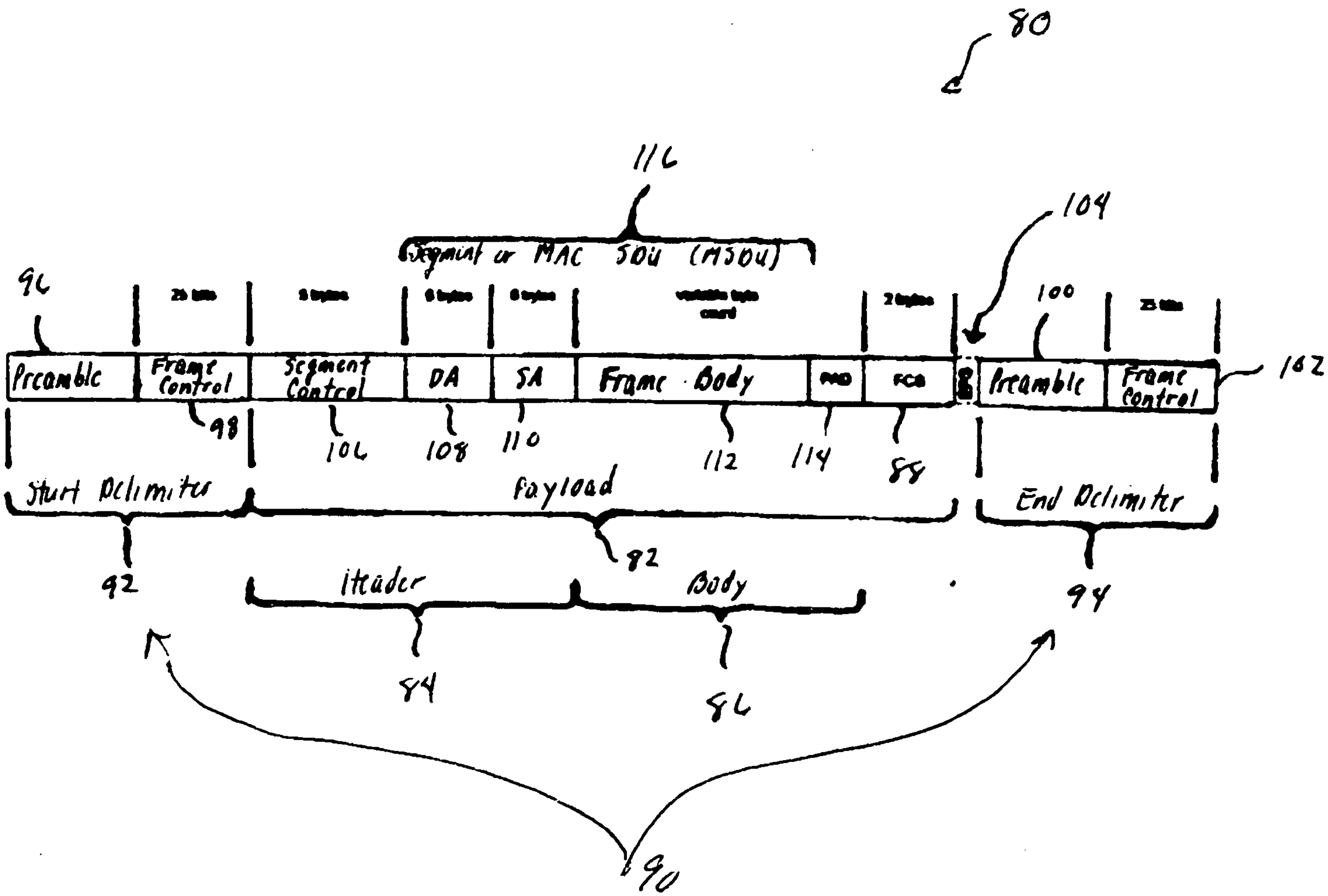
80
116
Segment or MAC SDU (MSDU)
104
96
100
162
Preamble
Frame Control
Segment Control
DA
SA
Frame Body
PAD
FCS
Preamble
Frame Control
98
106
108
110
112
114
88
Start Delimiter
Payload
End Delimiter
92
82
94
Header
Body
84
86
90

FIG. 3

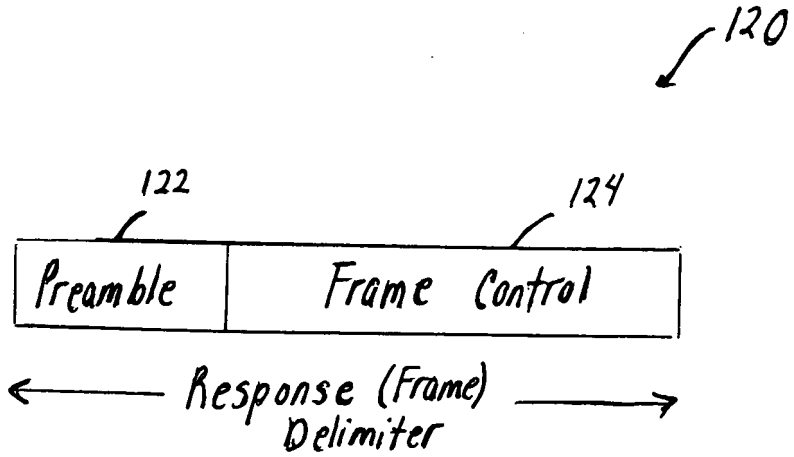

FIG. 4

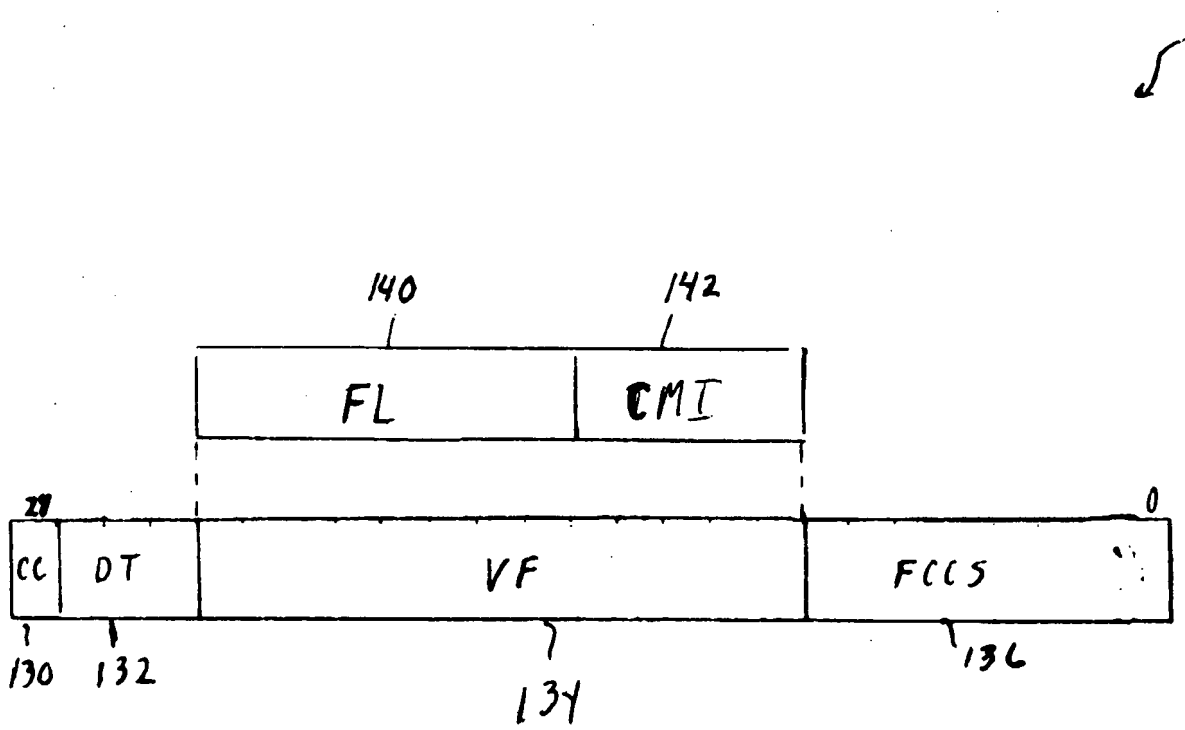

FIG. 5A

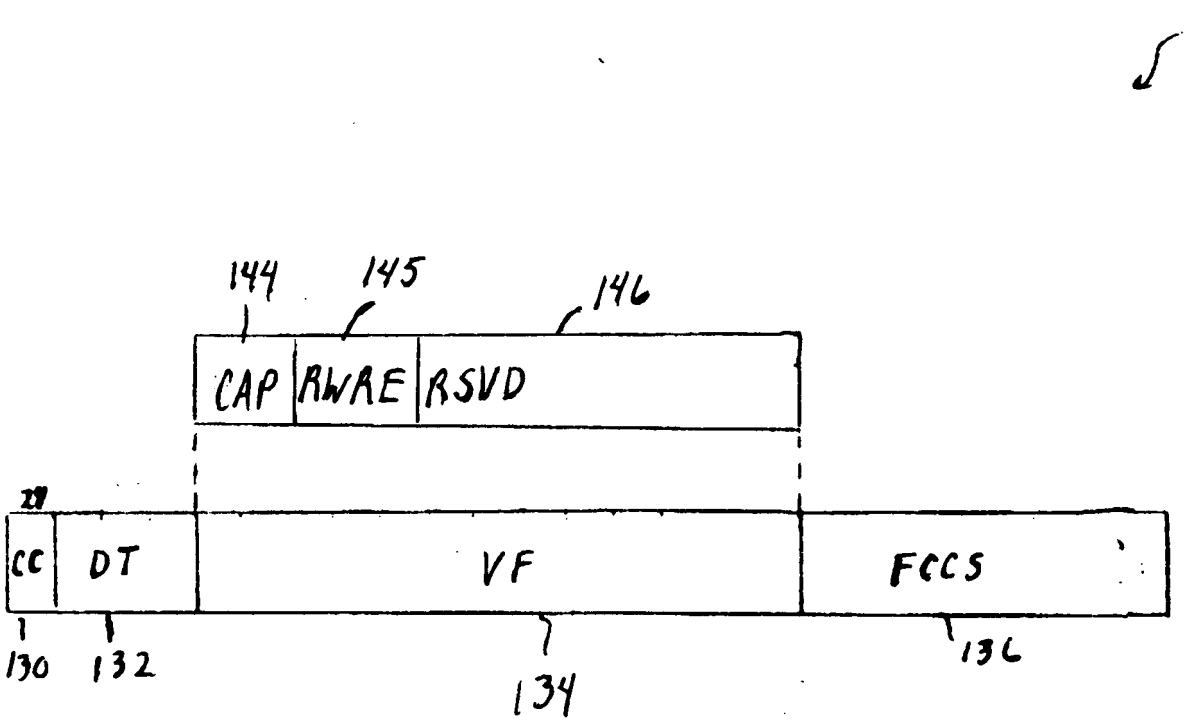

FIG 5B

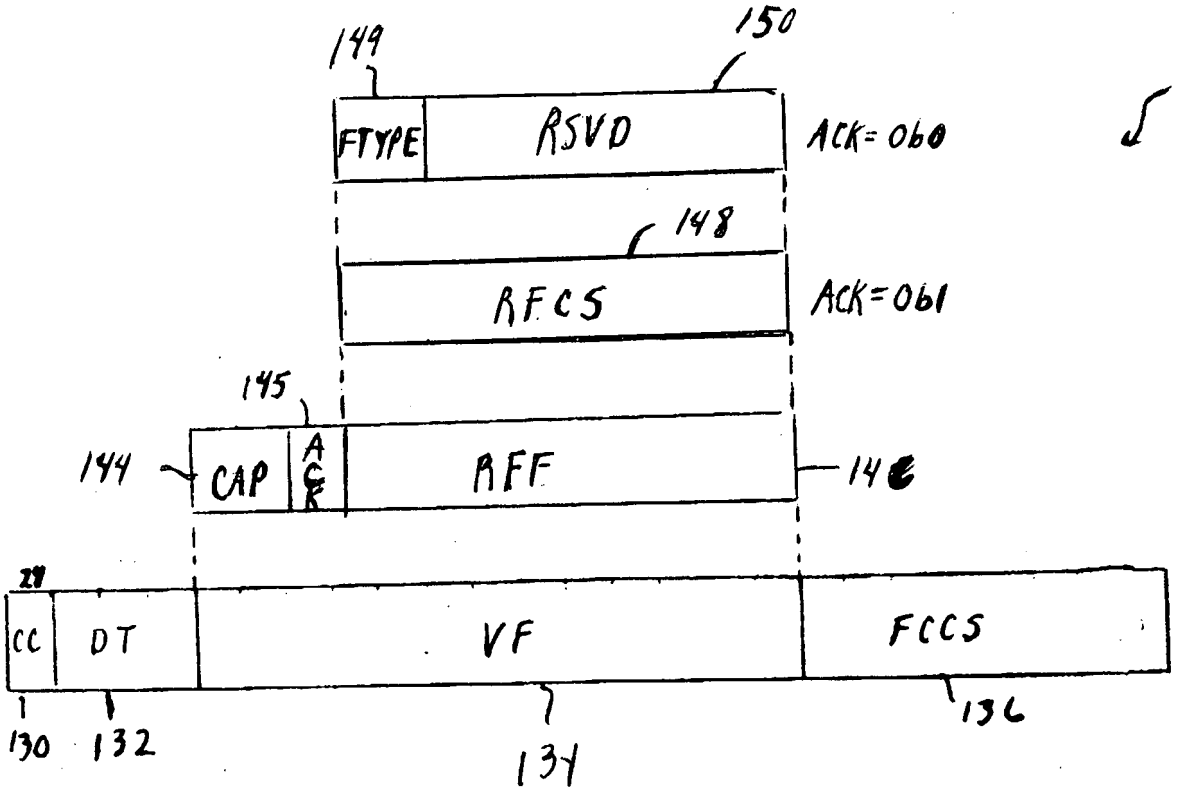

FIG. 6

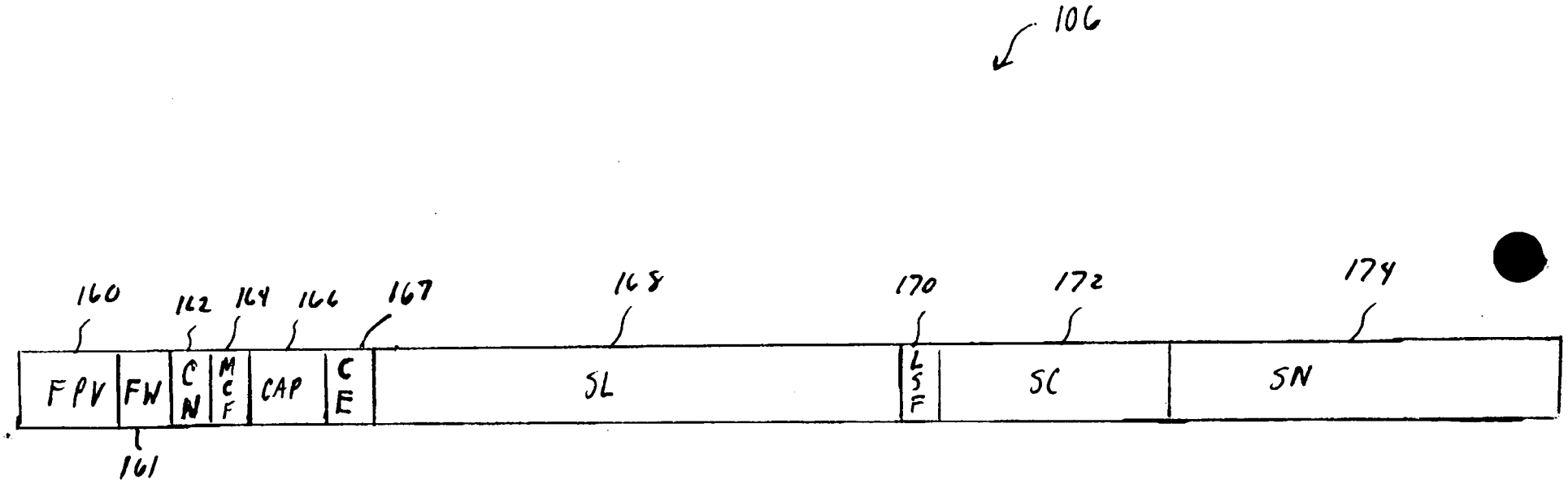

FIG. 7

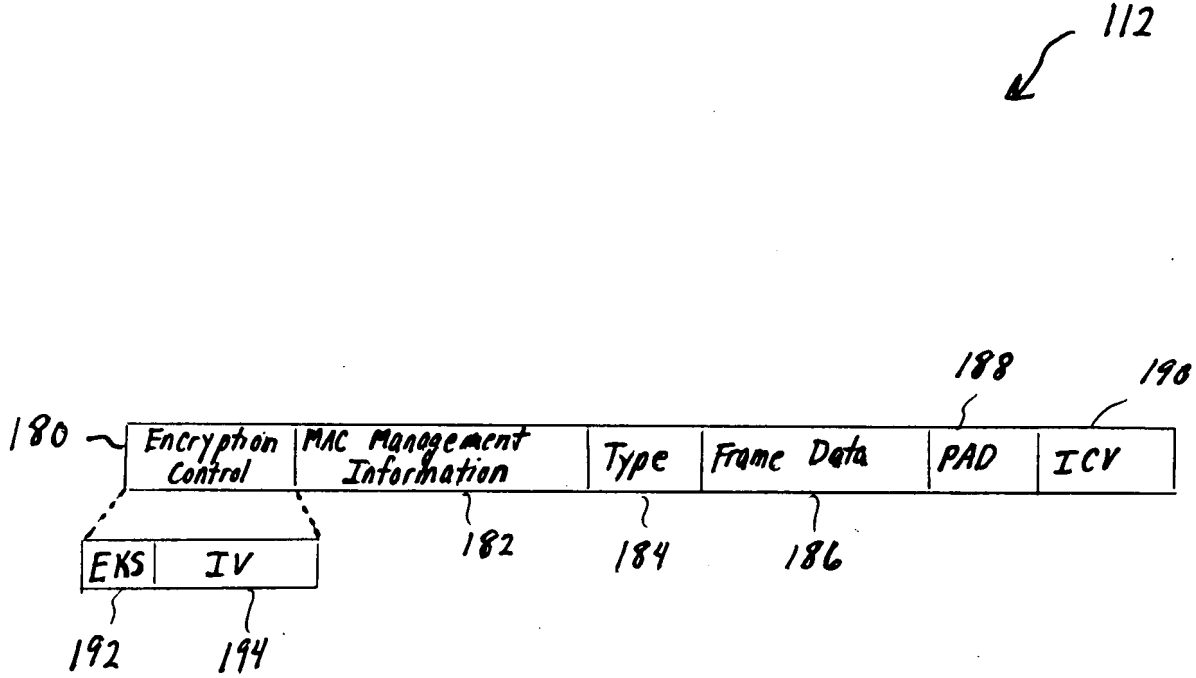

FIG. 8

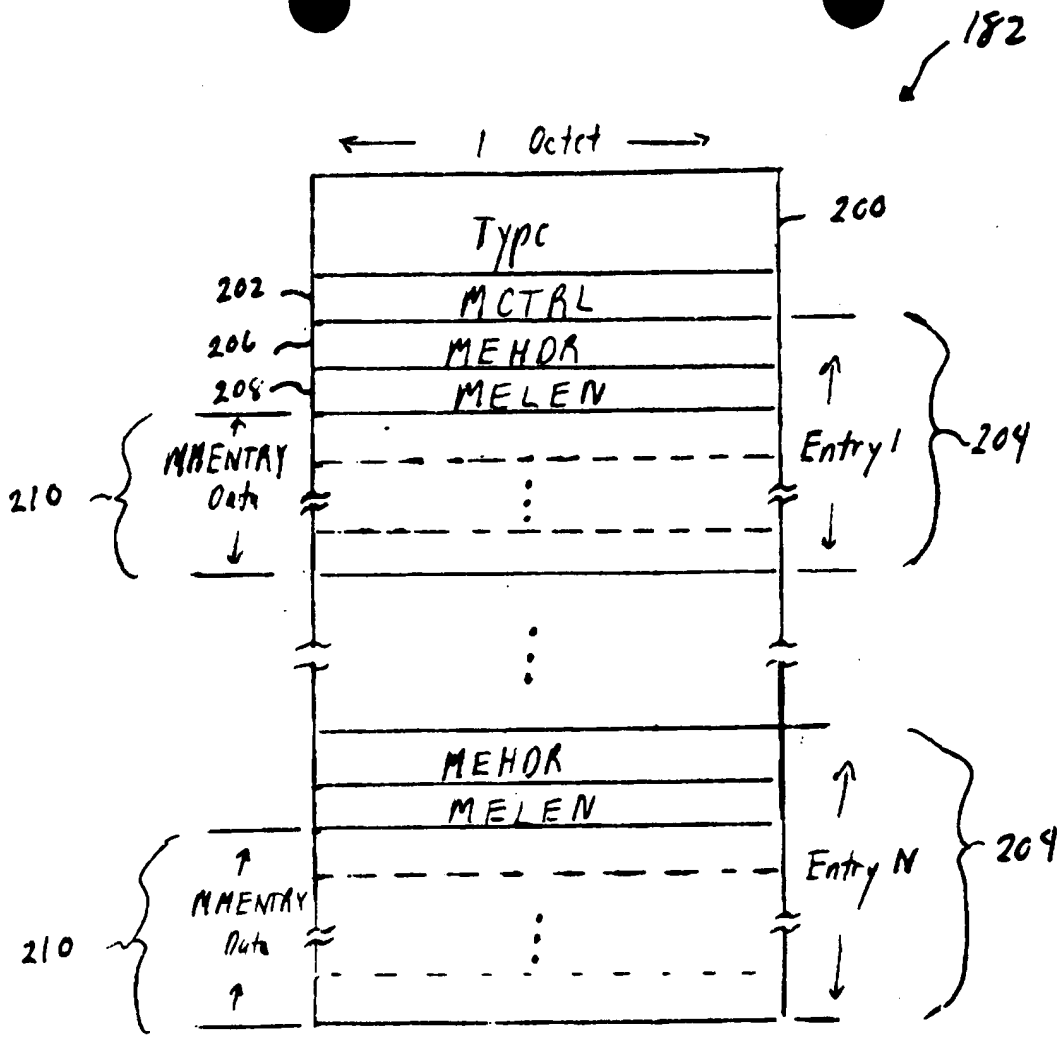
182
1 Octet
Type
200
202
MCTRL
206
MEHOR
208
MELEN
MMENTRY
Data
210
Entry 1
204
MEHOR
MELEN
MMENTRY
Data
210
Entry N
204

FIG. 9

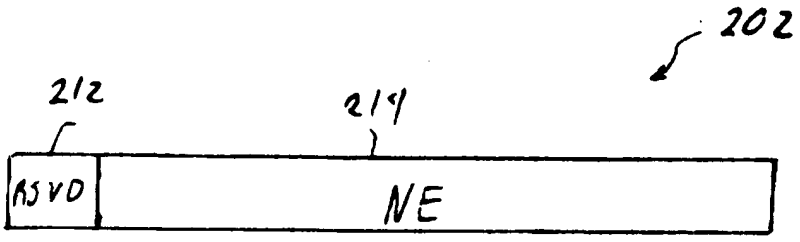

FIG. 10

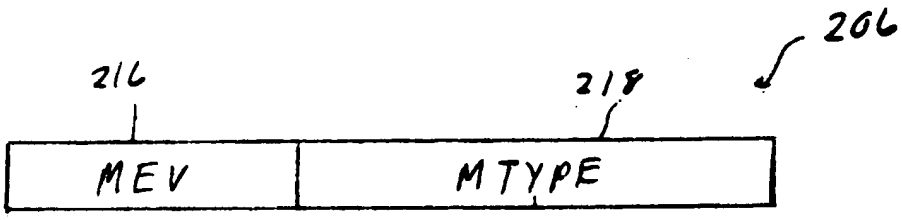

FIG. 11

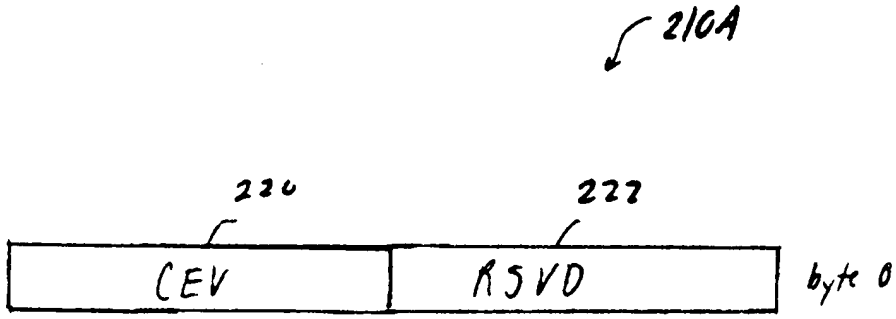

FIG. 12A

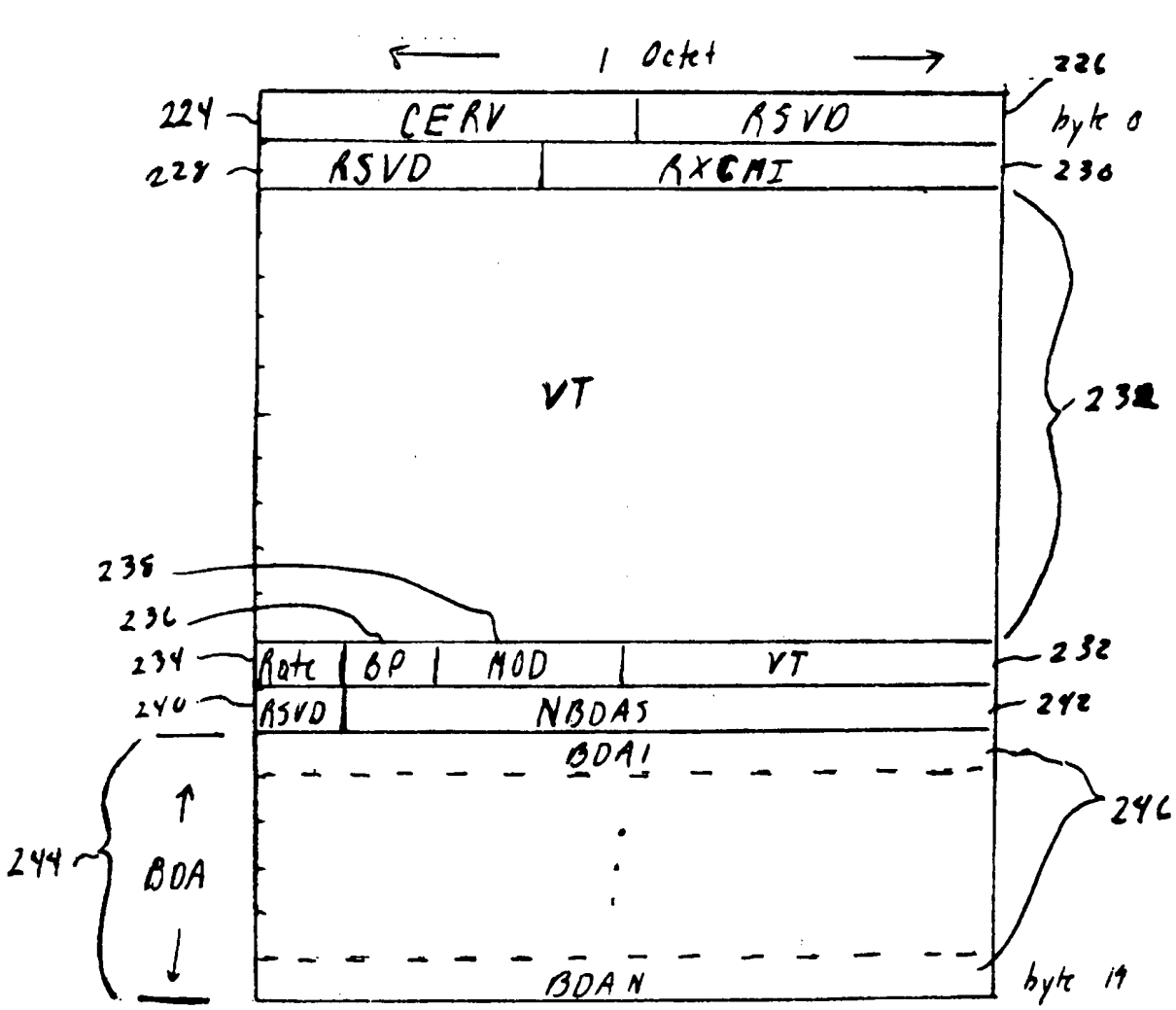

FIG. 12B

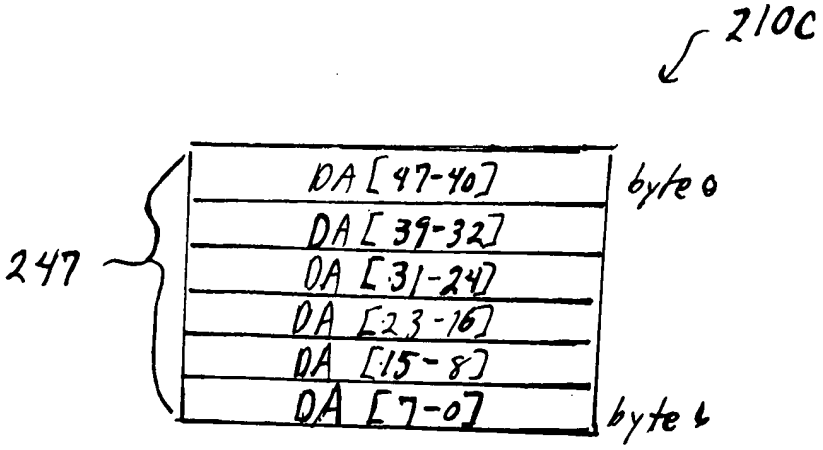

FIG. 13A

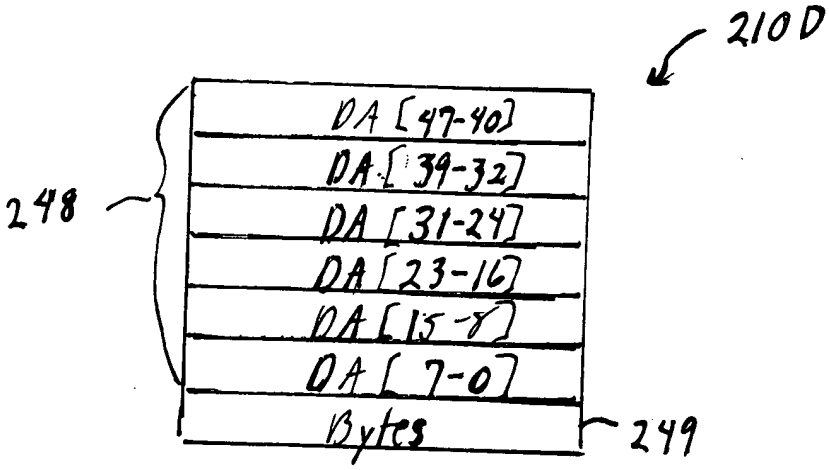

FIG. 13B

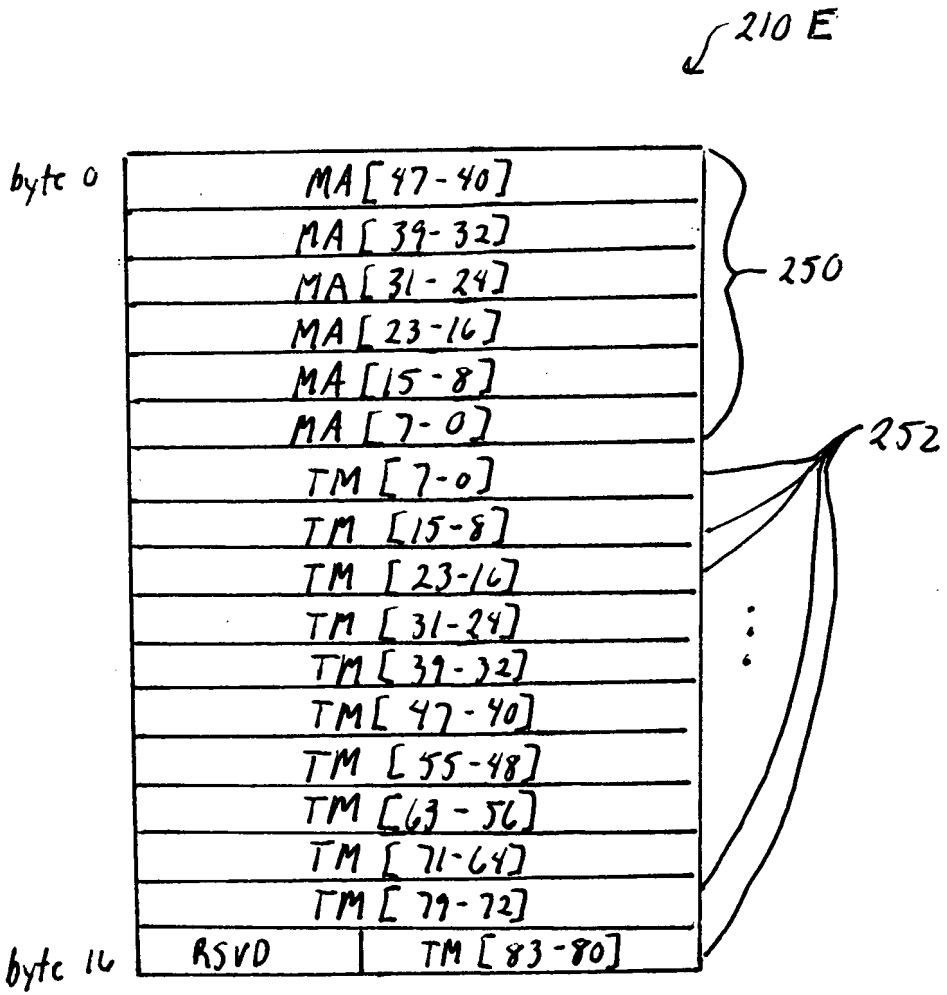
210 E
byte 0
MA [47-40]
MA [39-32]
MA [31-24]
MA [23-16]
MA [15-8]
MA [7-0]
TM [7-0]
TM [15-8]
TM [23-16]
TM [31-24]
TM [39-32]
TM [47-40]
TM [55-48]
TM [63-56]
TM [71-64]
TM [79-72]
byte 16
RSVD
TM [83-80]
250
252

FIG. 14

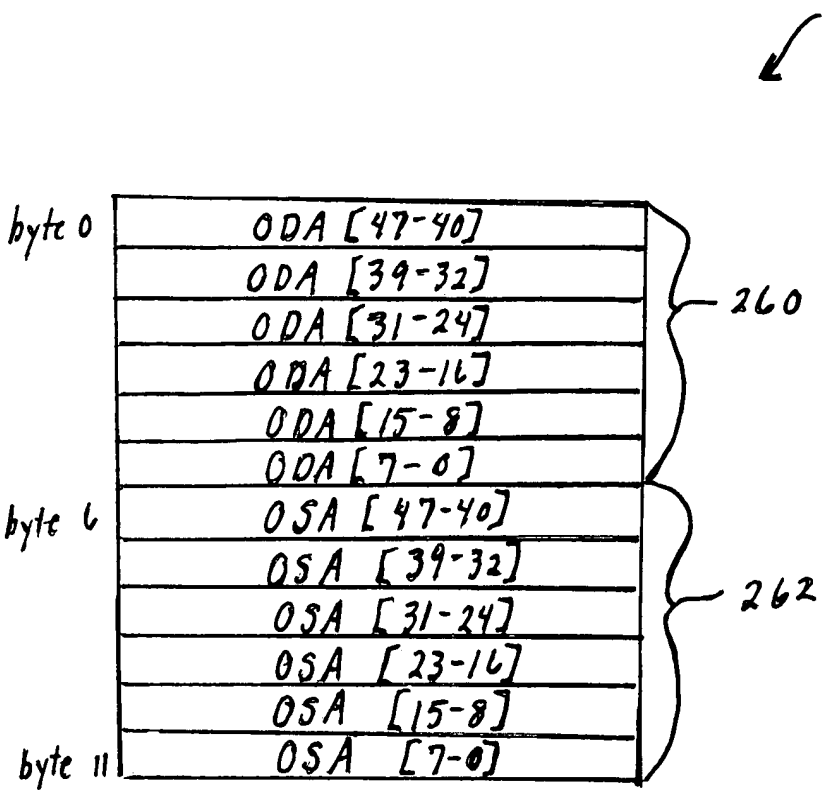
210F
byte 0
ODA [47-40]
ODA [39-32]
ODA [31-24]
ODA [23-16]
ODA [15-8]
ODA [7-0]
260
byte 6
OSA [47-40]
OSA [39-32]
OSA [31-24]
OSA [23-16]
OSA [15-8]
byte 11
OSA [7-0]
262

FIG. 15

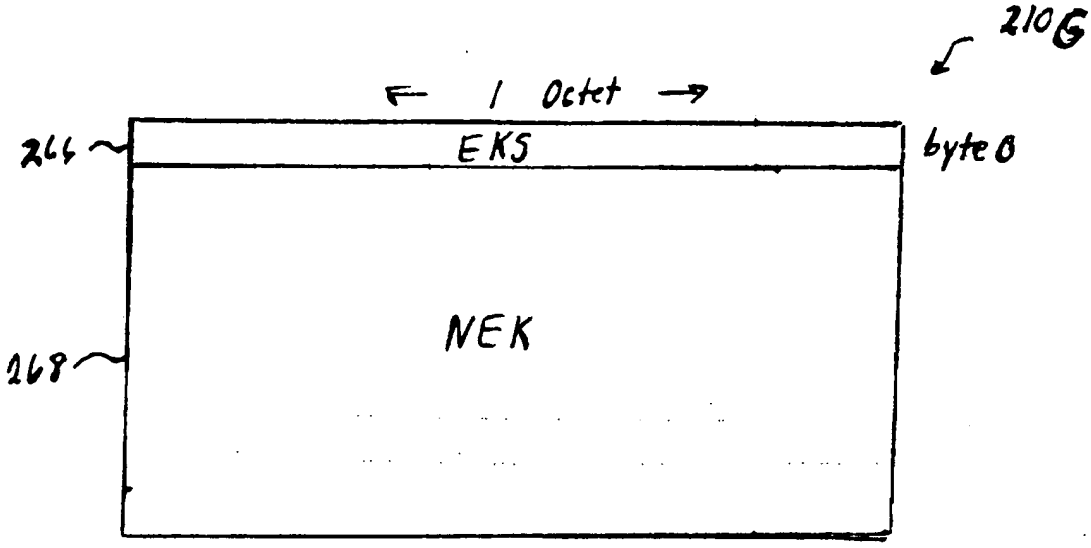

FIG. 16

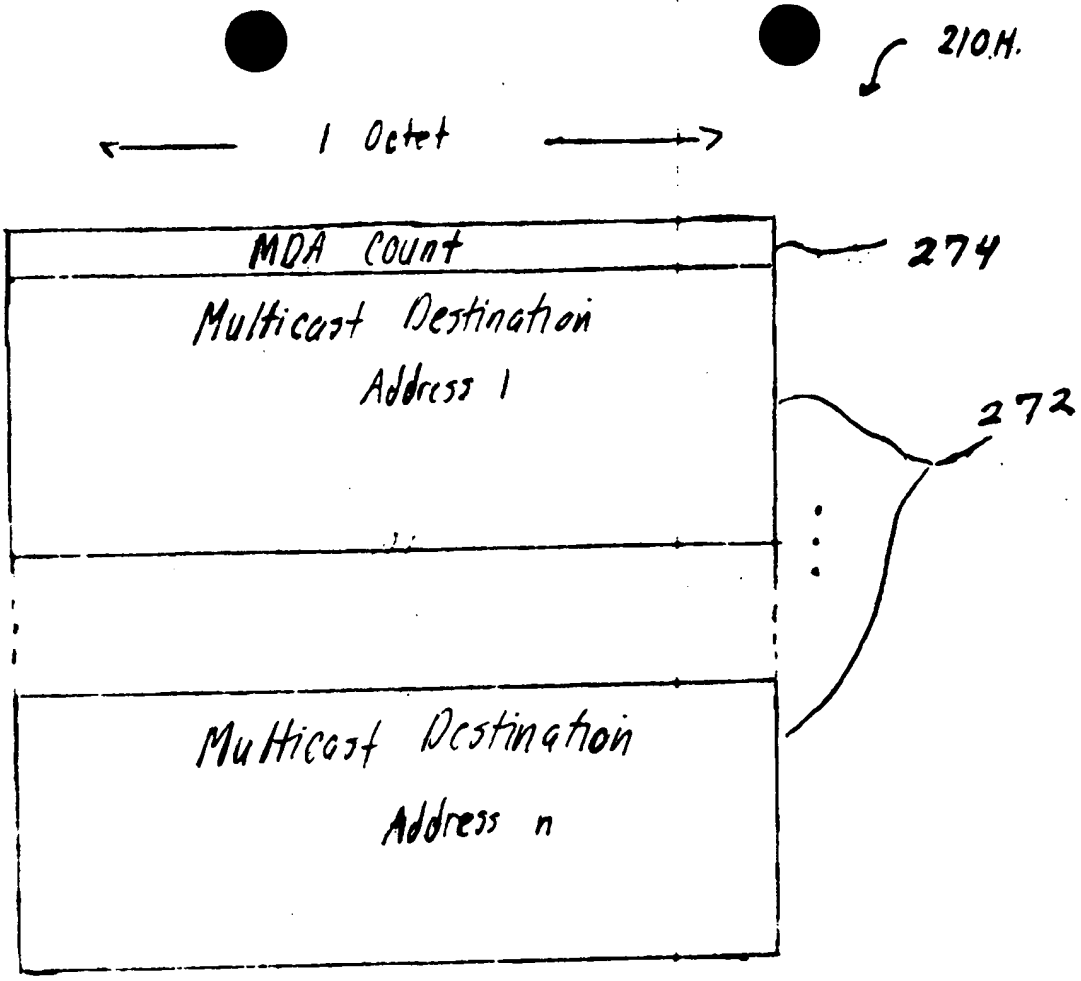
210H.
1 Octet
MDA Count
274
Multicast Destination Address 1
272
Multicast Destination Address n

FIG. 17

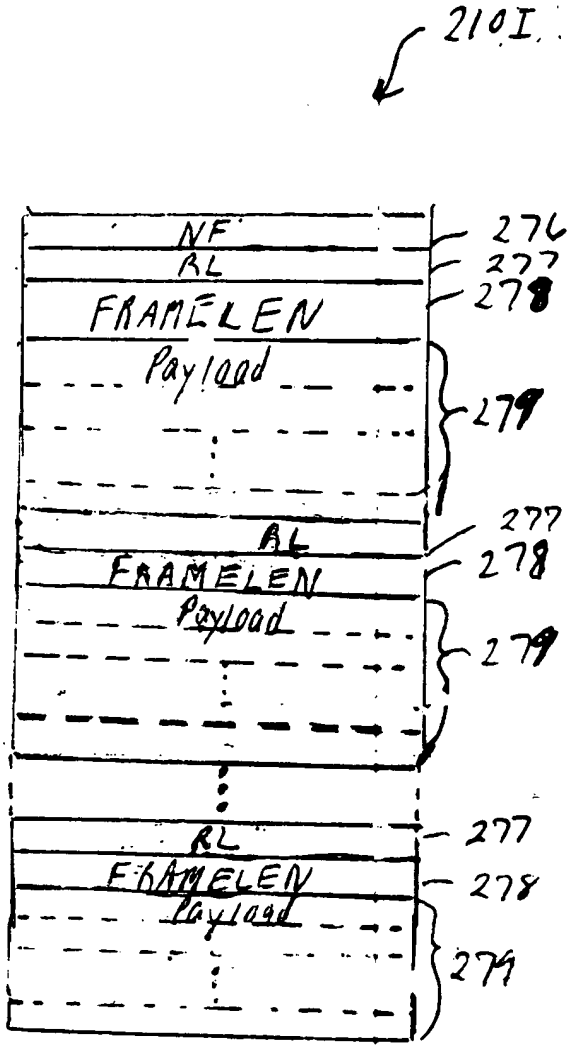
210I
NF
RL
FRAMELEN
Payload
RL
FRAMELEN
Payload
RL
FRAMELEN
Payload
276
277
278
279
277
278
279
277
278
279

FIG. 18

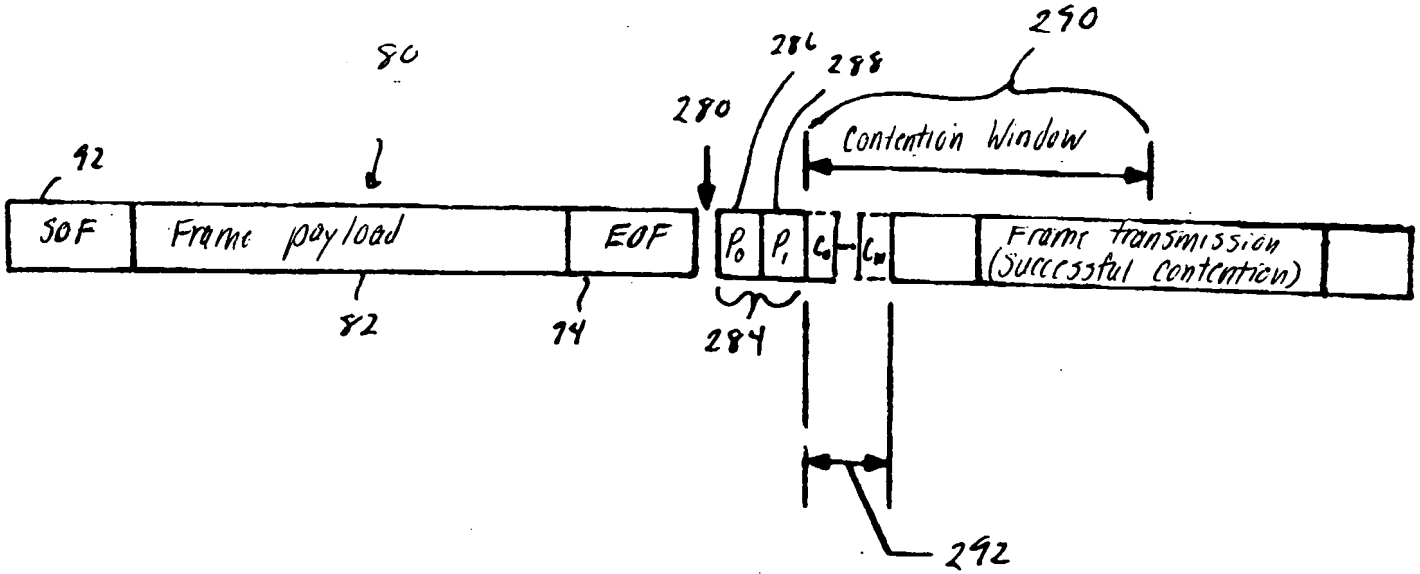

FIG. 19A

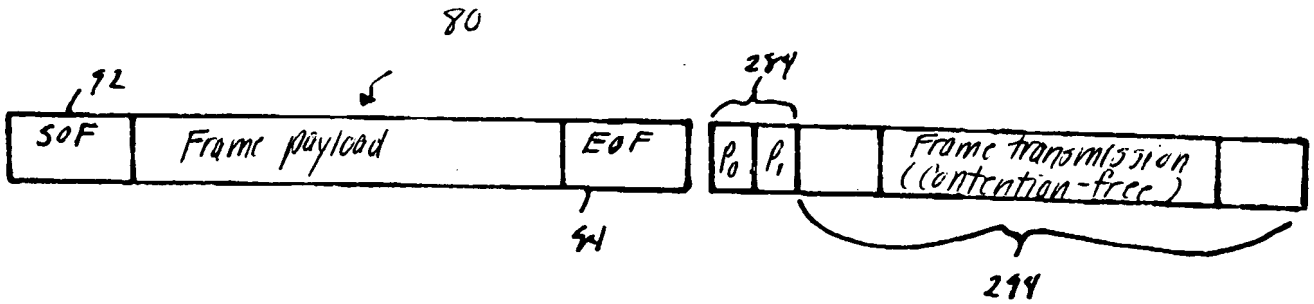

FIG 19B

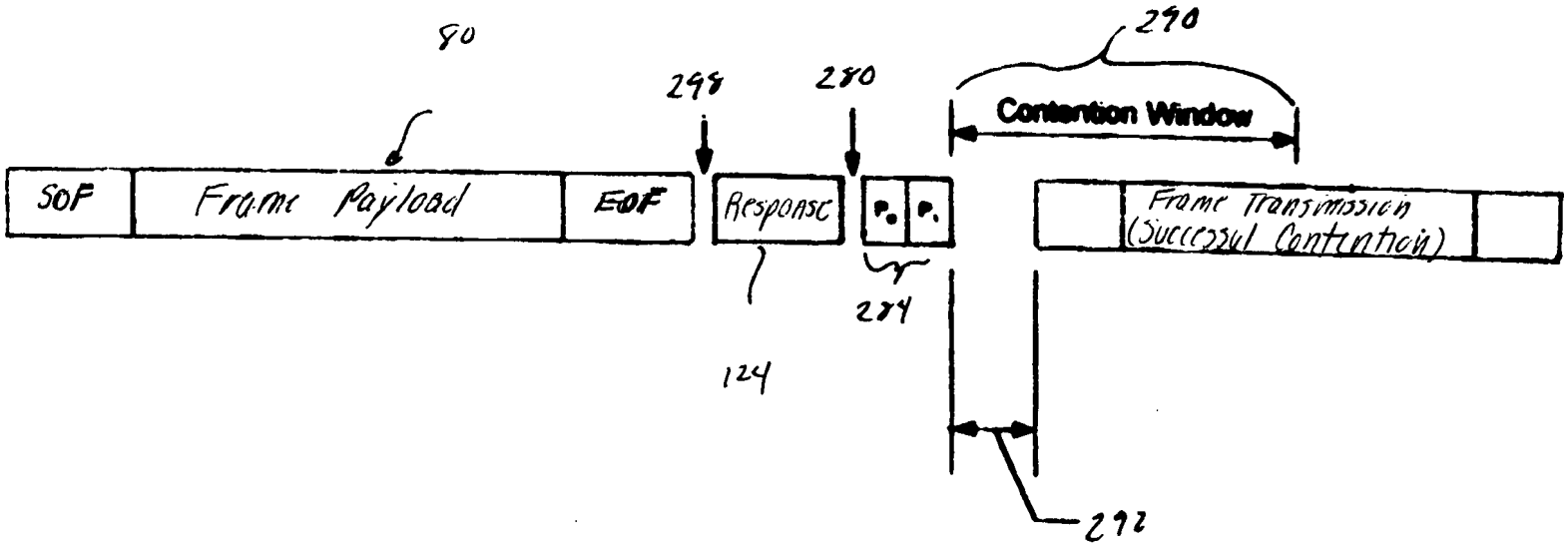

FIG. 19C

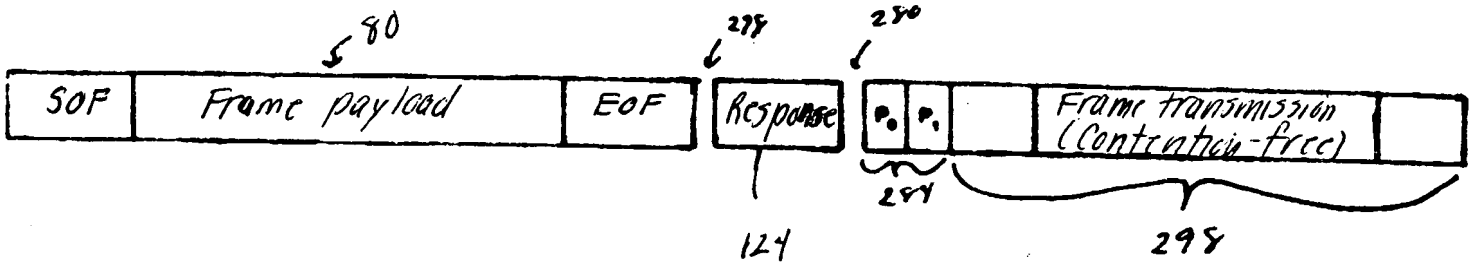

FIG. 19D

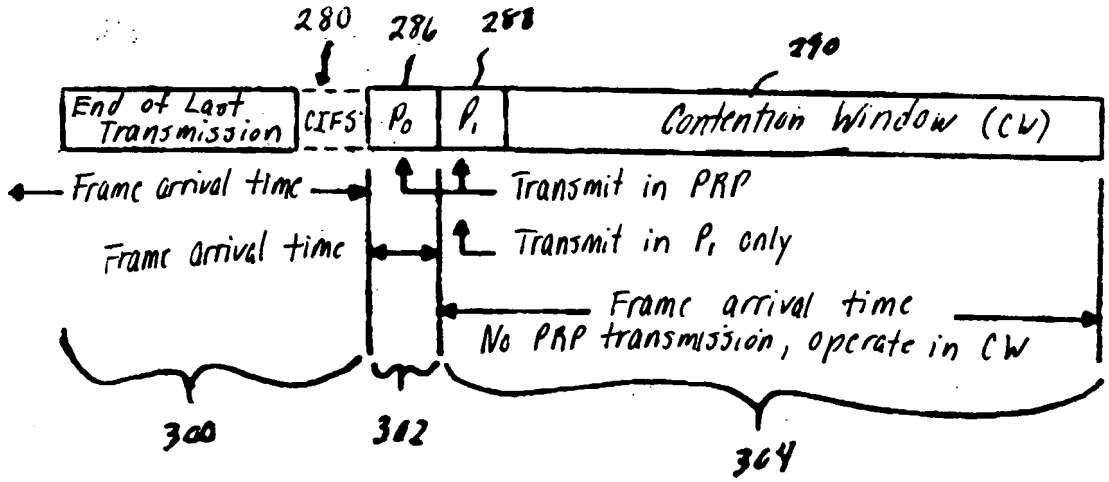

FIG. 20

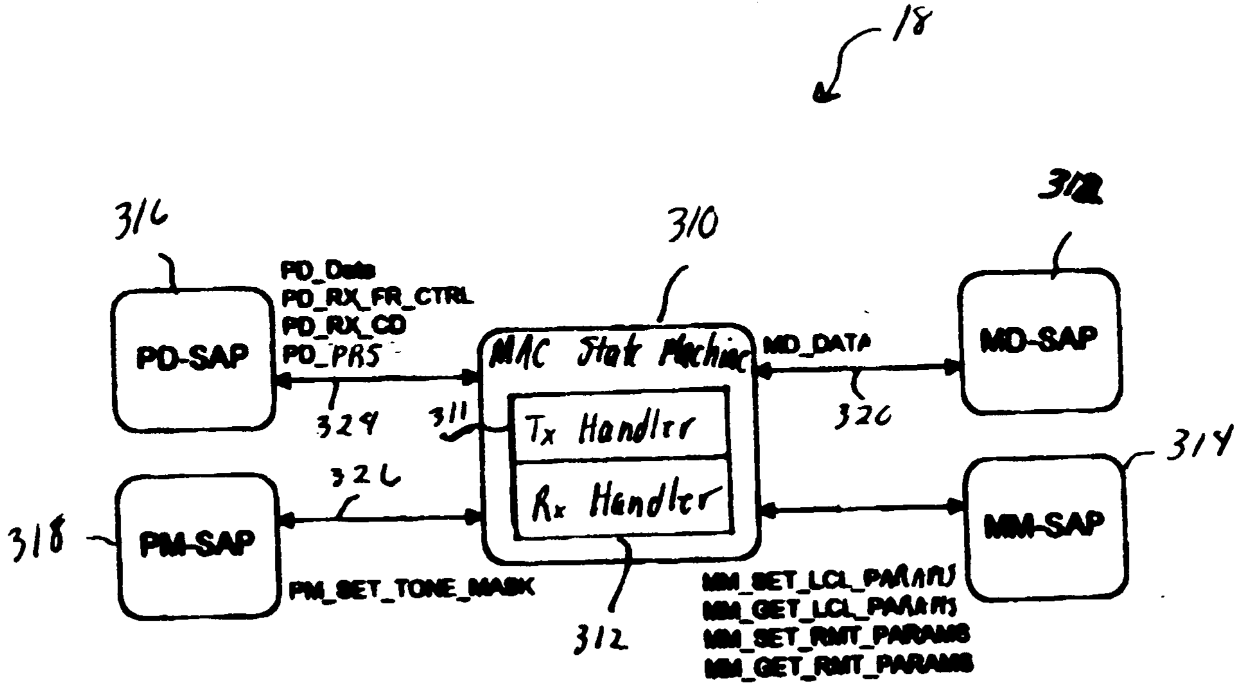
18
316
PD-SAP
PD_Data
PD_RX_FR_CTRL
PD_RX_CD
PD_PRS
324
310
MAC State Machine
311
Tx Handler
Rx Handler
312
MD_DATA
320
312
MD-SAP
314
MM-SAP
MM_SET_LCL_PARAMS
MM_GET_LCL_PARAMS
MM_SET_RMT_PARAMS
MM_GET_RMT_PARAMS
318
PM-SAP
326
PM_SET_TONE_MASK

FIG. 21

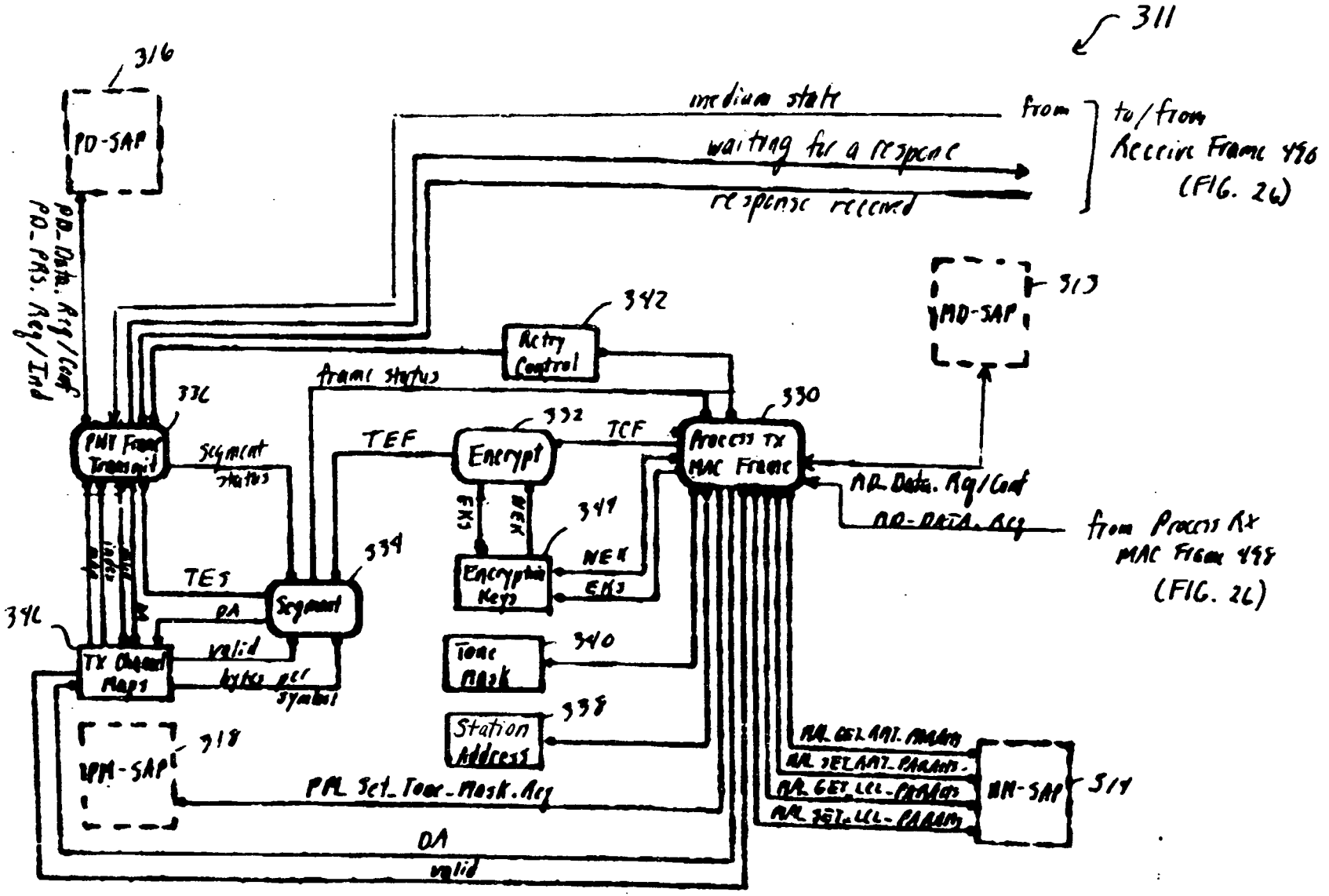

FIG. 22

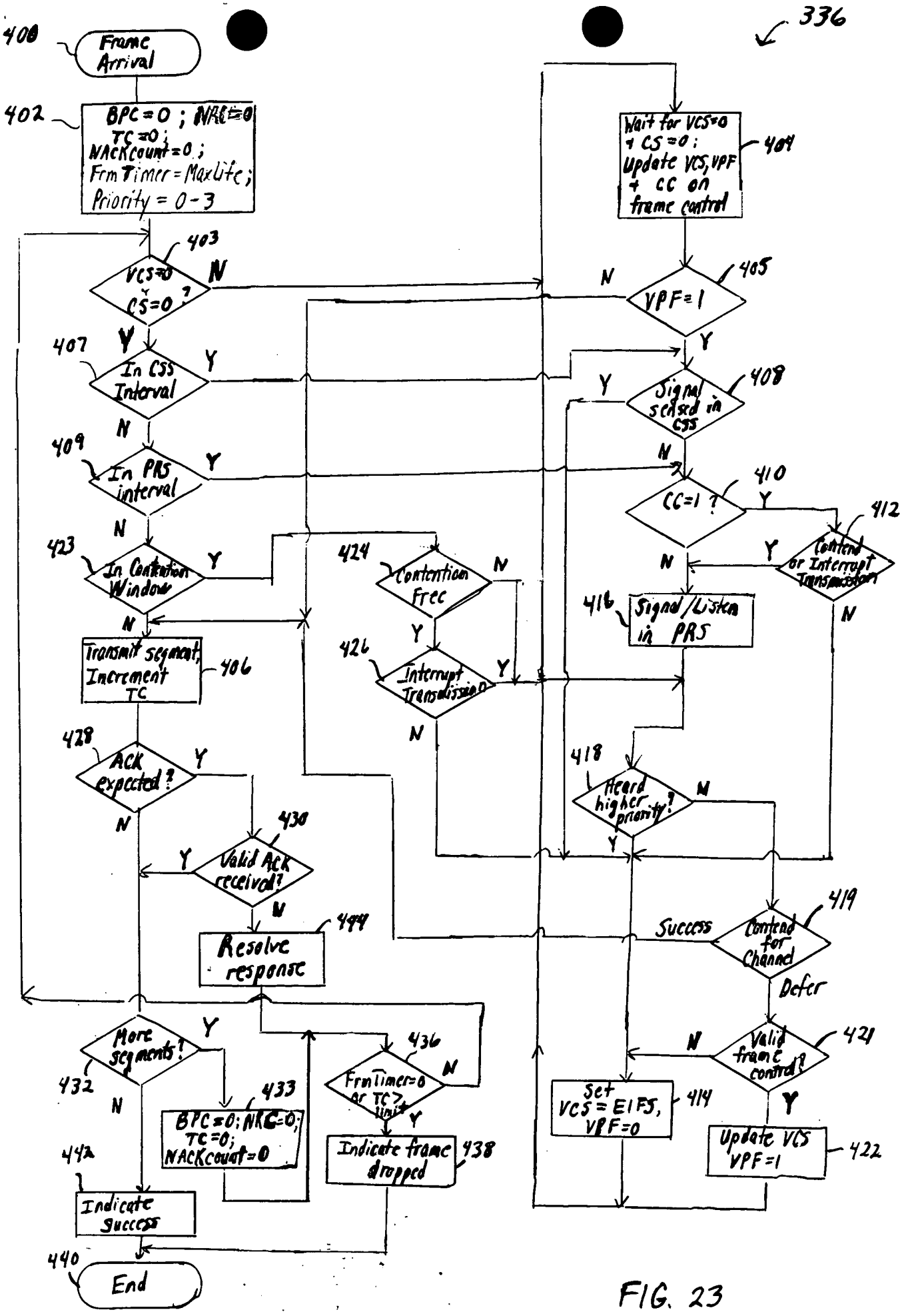
336
400
Frame Arrival
402
BPC=0 ; NRC=0
TC=0;
NACKcount=0;
FrmTimer=MaxLife;
Priority = 0-3
403
VCS=0 & CS=0 ?
N
Y
407
In CSS Interval
Y
N
409
In PRS interval
Y
N
423
In Contention Window
Y
N
Transmit segment, Increment TC
406
428
ACK expected?
Y
N
430
Valid ACK received?
Y
N
444
Resolve response
More segments?
Y
N
432
433
BPC=0; NRC=0; TC=0; NACKcount=0
436
FrmTimer=0 or TC>limit
N
Y
438
Indicate frame dropped
442
Indicate Success
440
End
424
Contention Free
N
Y
426
Interrupt Transmission
Y
N
Wait for VCS=0 & CS=0; Update VCS, VPF & CC on frame control
409
405
VPF=1
N
Y
408
Signal sensed in CSS
Y
N
410
CC=1 ?
Y
N
412
Contend or Interrupt Transmission
Y
N
416
Signal/Listen in PRS
418
Heard higher priority?
N
Y
419
Contend for Channel
Success
Defer
421
Valid frame control?
N
Y
414
Set VCS = EIFS, VPF=0
422
Update VCS VPF=1

FIG. 23

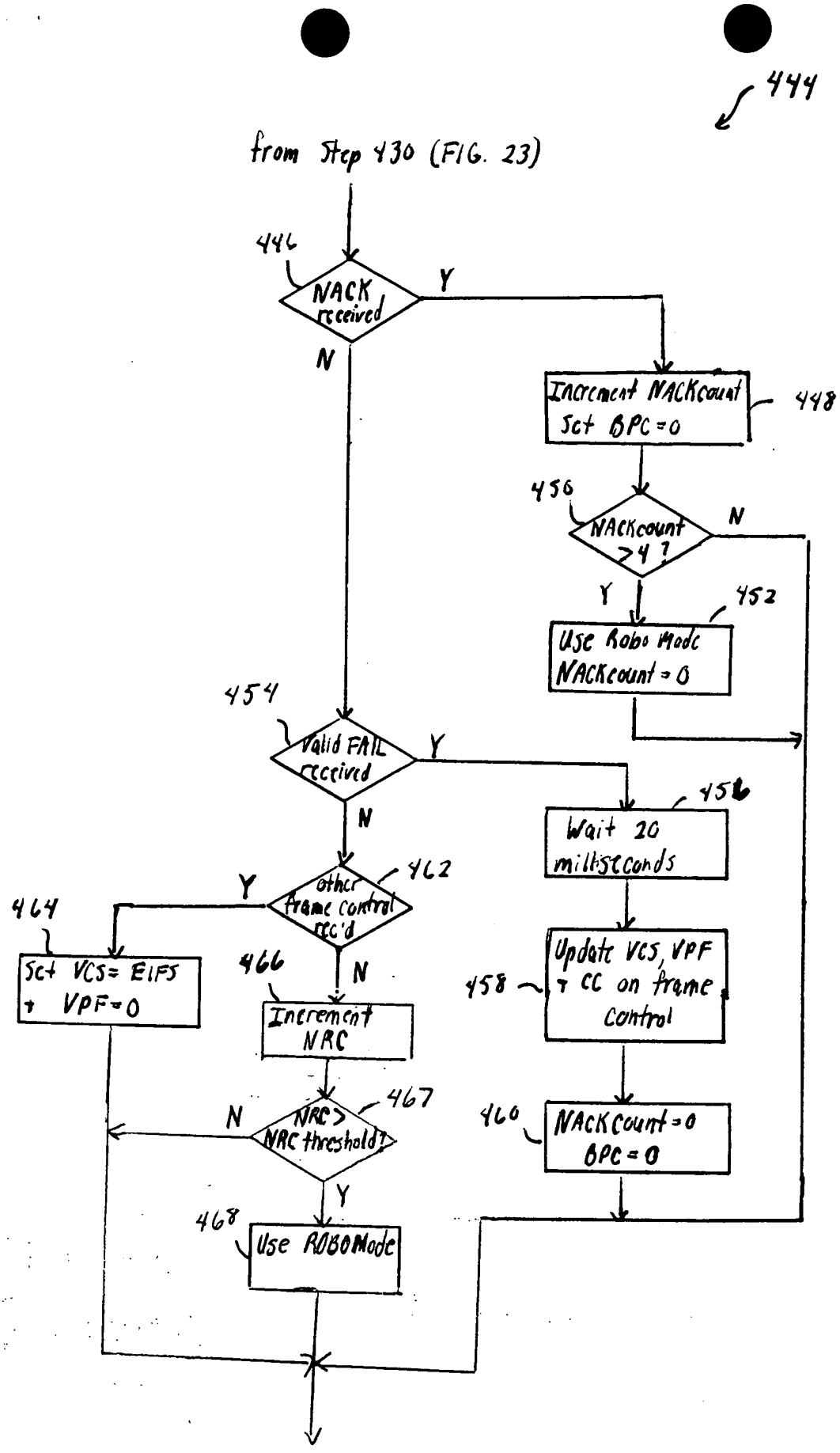
444
from Step 430 (FIG. 23)
446
NACK received
Y
N
Increment NACKcount
Set BPC = 0
448
456
NACKcount > 4?
N
Y
452
Use Robo Mode
NACKcount = 0
454
Valid FAIL received
Y
N
456
Wait 20 milliseconds
462
other frame control rec'd
Y
N
464
Set VCS = EIFS + VPF = 0
466
Increment NRC
458
Update VCS, VPF + CC on frame control
467
NRC > NRC threshold?
N
Y
460
NACKCount = 0
BPC = 0
468
Use ROBOMode
to Step 436 (FIG. 23)

FIG. 24

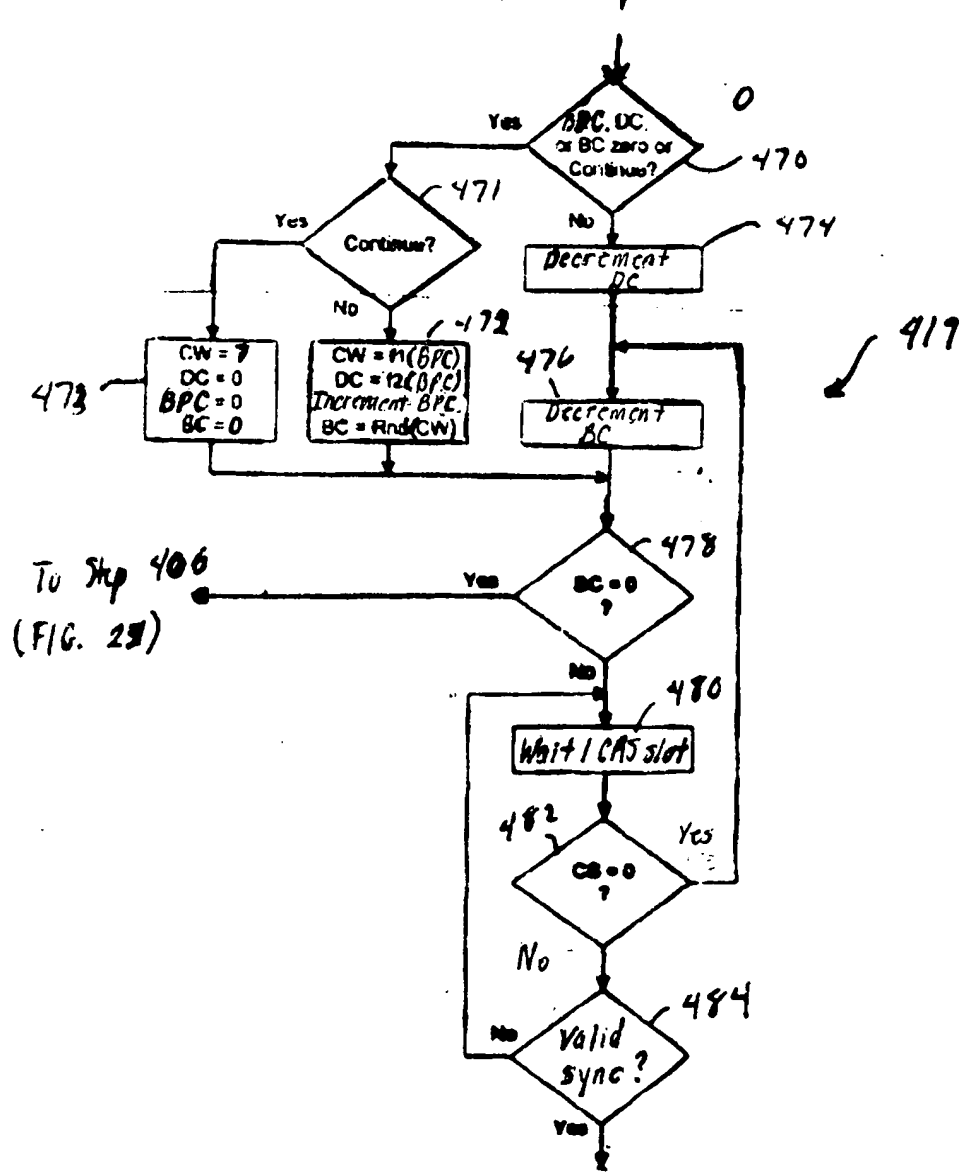
From Step 418 (FIG. 23)
BPC, DC, or BC zero or Continue?
470
Yes
No
Continue?
471
Yes
No
Decrement DC
474
CW = 7
DC = 0
BPC = 0
BC = 0
473
CW = n(BPC)
DC = n2(BPC)
Increment BPC.
BC = Rnd(CW)
472
476
Decrement BC
419
To Step 406 (FIG. 23)
BC = 0 ?
478
Yes
No
Wait for CAS slot
480
CS = 0 ?
482
Yes
No
Valid sync ?
484
No
Yes
to Step 421 (FIG. 23)

FIG. 25

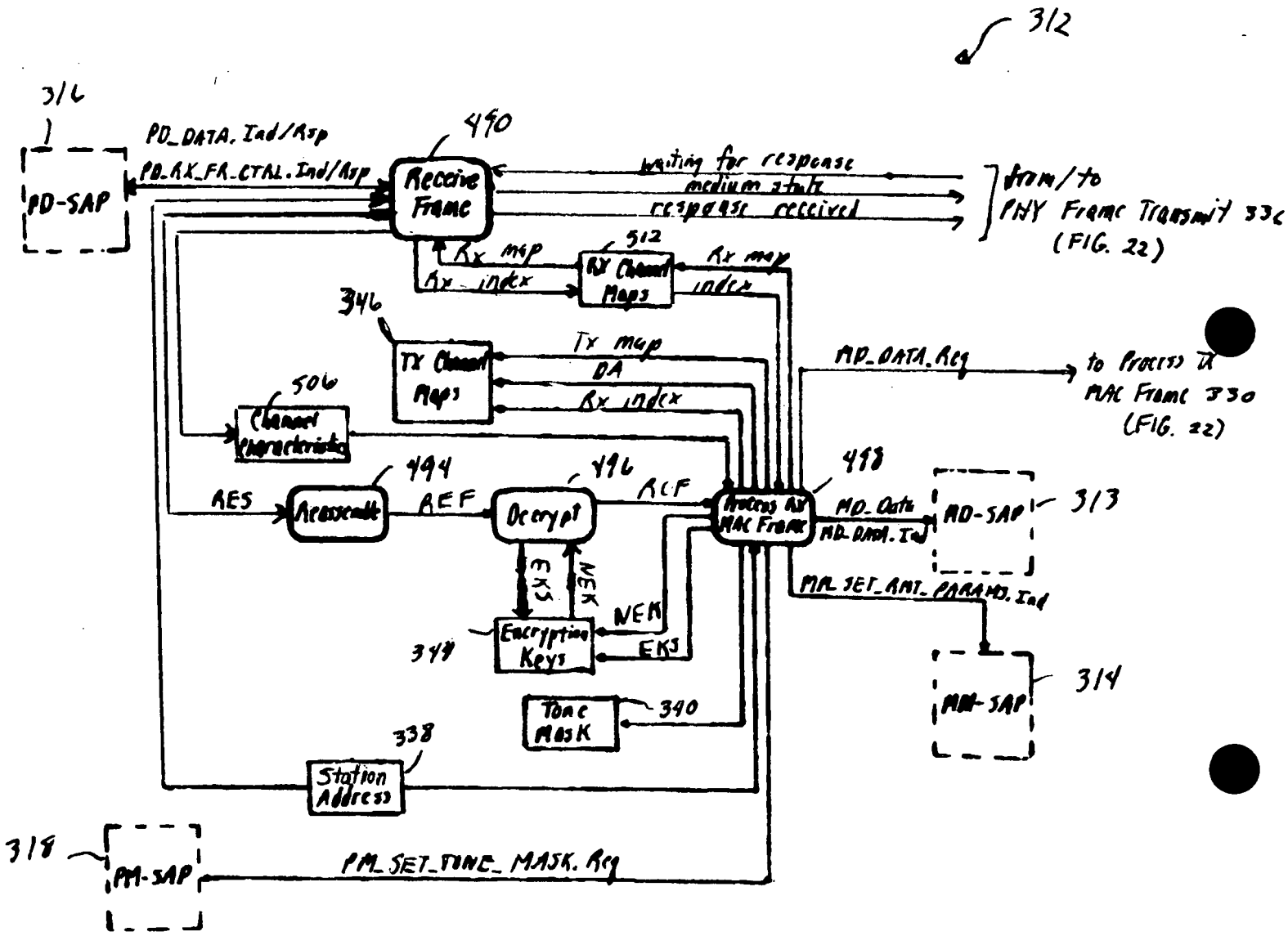
312
316
PD_DATA. Ind/Asp
PD_AK_FR_CTRL. Ind/Asp
PD-SAP
490
Receive Frame
waiting for response
medium state
response received
from/to PHY Frame Transmit 330 (FIG. 22)
Rx map
Rx index
512
RX Channel Maps
Rx map index
346
TX Channel Maps
Tx map
DA
Rx index
MD_DATA. Req
to Process TX MAC Frame 330 (FIG. 22)
506
Channel Characteristics
494
Accumulate
AES
AEF
496
Decrypt
RCF
498
Process RX MAC Frame
MD. Data
MD_DATA. Ind
MD-SAP
313
MA_SET_ANT_PARAMD. Ind
EKS
NEK
NEK
EKS
349
Encryption Keys
MM-SAP
314
Tone Mask
340
338
Station Address
318
PM-SAP
PM_SET_TONE_MASK. Req

FIG. 26

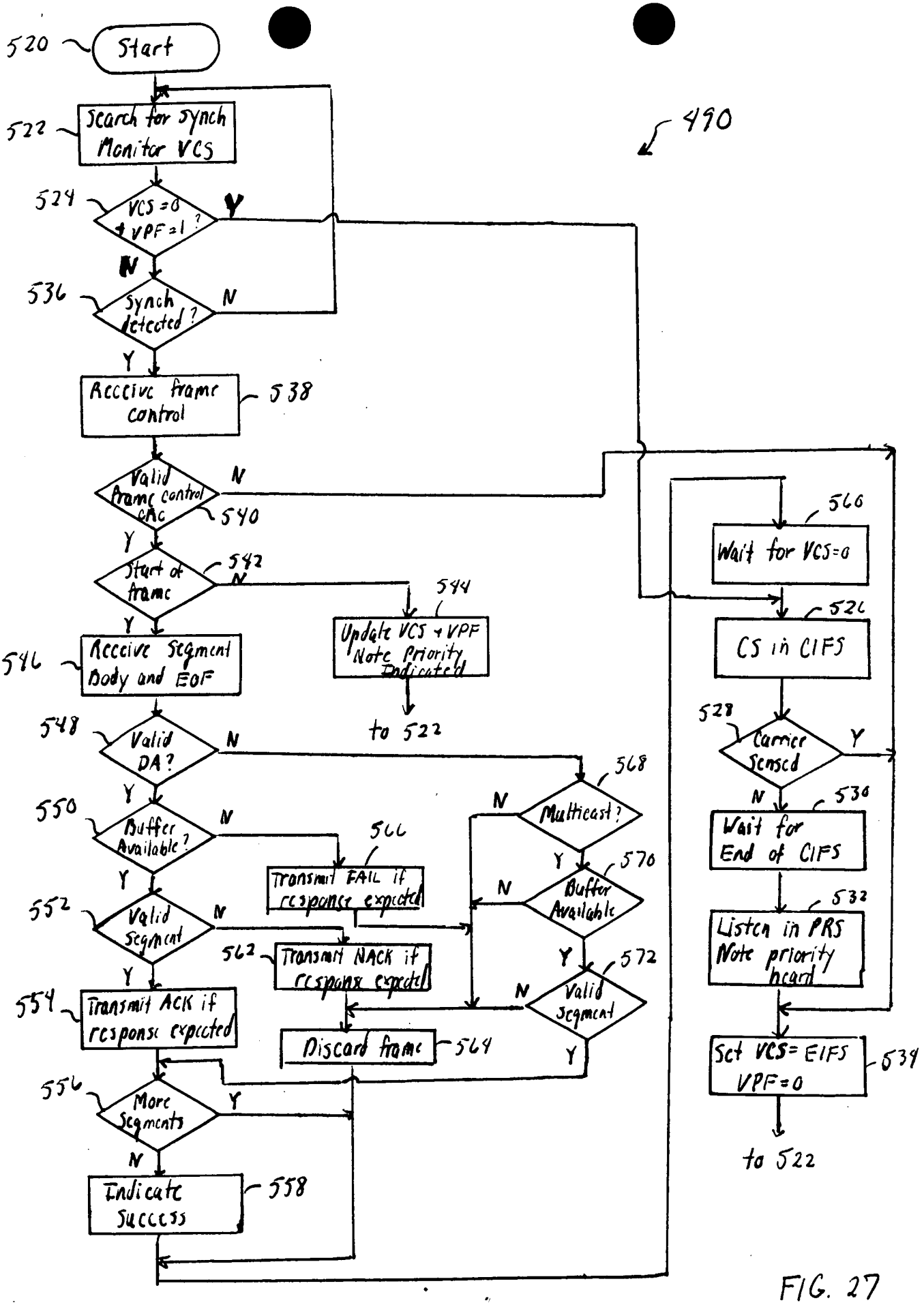
520
Start
522
Search for Synch
Monitor VCS
524
VCS=0
+ VPF=1 ?
Y
N
536
Synch
detected ?
N
Y
538
Receive frame
control
Valid
Frame control
CRC
N
540
Y
542
Start of
frame
N
544
Update VCS + VPF
Note Priority
Indicated
to 522
546
Receive Segment
Body and EOF
548
Valid
DA ?
N
Y
550
Buffer
Available ?
N
Y
552
Valid
Segment
N
Y
554
Transmit ACK if
response expected
556
More
Segments
Y
N
558
Indicate
Success
566
Transmit FAIL if
response expected
562
Transmit NACK if
response expected
564
Discard frame
568
Multicast ?
N
Y
570
Buffer
Available
N
Y
572
Valid
Segment
N
Y
560
Wait for VCS=0
526
CS in CIFS
528
Carrier
Sensed
Y
N
530
Wait for
End of CIFS
532
Listen in PRS
Note priority
heard
534
Set VCS=EIFS
VPF=0
to 522
490

FIG. 27

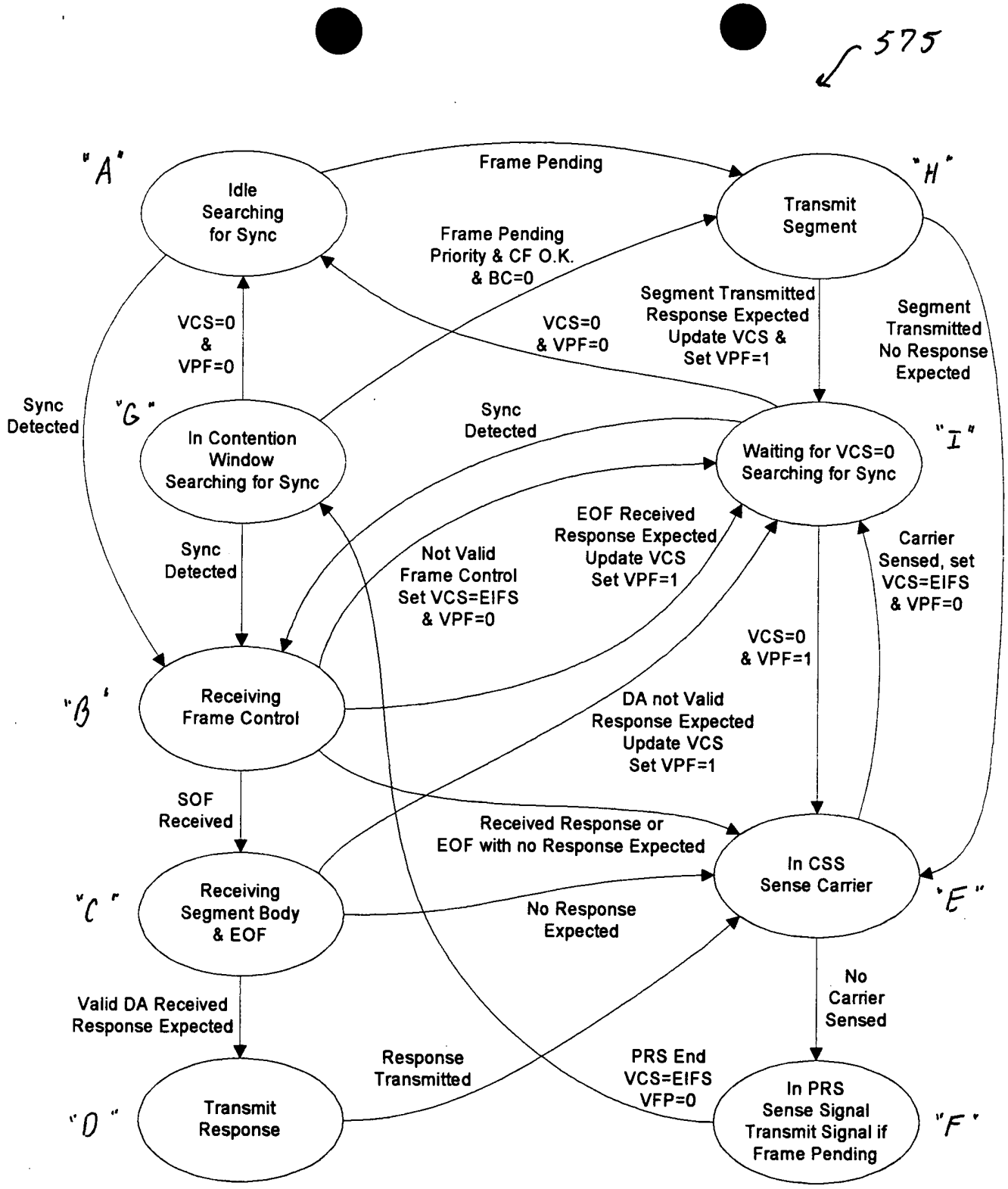
575
"A"
Idle Searching for Sync
Frame Pending
"H"
Transmit Segment
Frame Pending Priority & CF O.K. & BC=0
VCS=0 & VPF=0
VCS=0 & VPF=0
Segment Transmitted Response Expected Update VCS & Set VPF=1
Segment Transmitted No Response Expected
Sync Detected
"G"
In Contention Window Searching for Sync
Sync Detected
"I"
Waiting for VCS=0 Searching for Sync
Sync Detected
Not Valid Frame Control Set VCS=EIFS & VPF=0
EOF Received Response Expected Update VCS Set VPF=1
Carrier Sensed, set VCS=EIFS & VPF=0
VCS=0 & VPF=1
"B"
Receiving Frame Control
DA not Valid Response Expected Update VCS Set VPF=1
SOF Received
Received Response or EOF with no Response Expected
"C"
Receiving Segment Body & EOF
In CSS Sense Carrier
"E"
No Response Expected
No Carrier Sensed
Valid DA Received Response Expected
Response Transmitted
PRS End VCS=EIFS VFP=0
"D"
Transmit Response
In PRS Sense Signal Transmit Signal if Frame Pending
"F"

FIG. 28

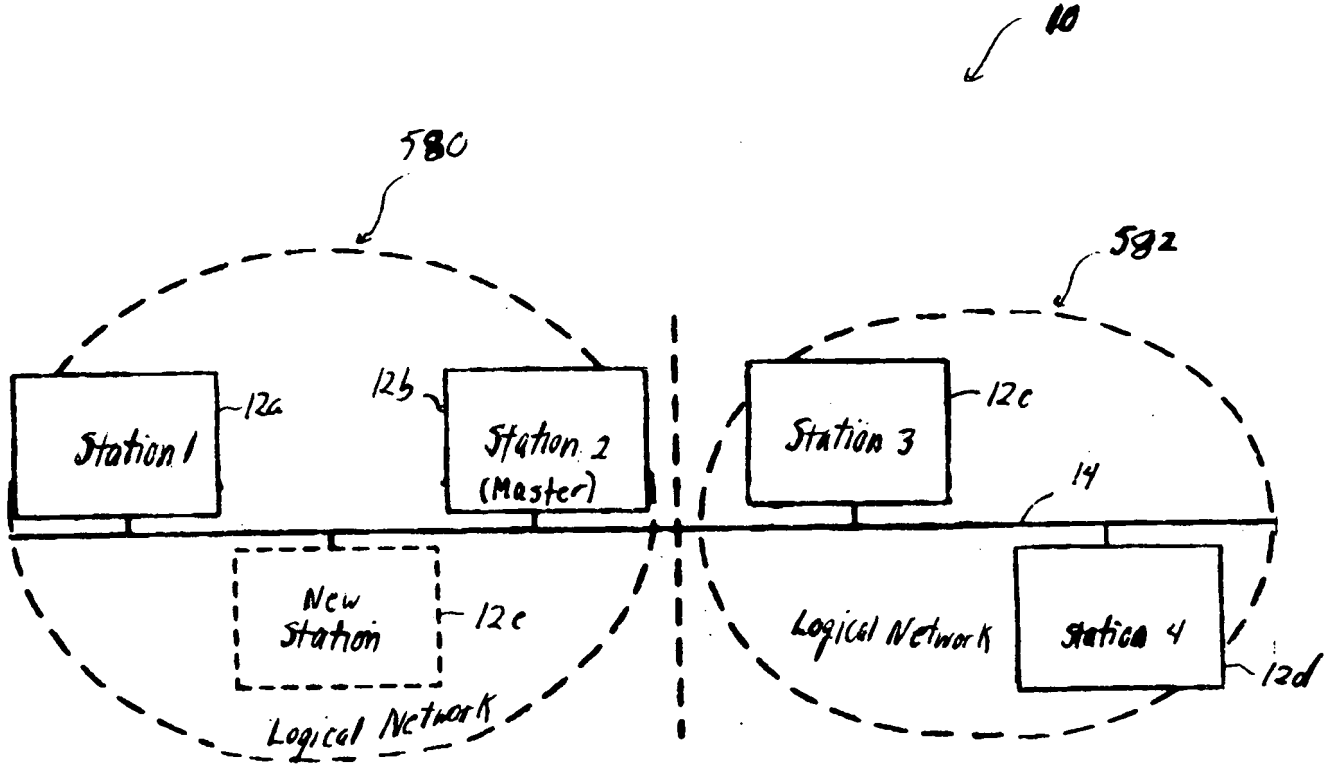

FIG. 29

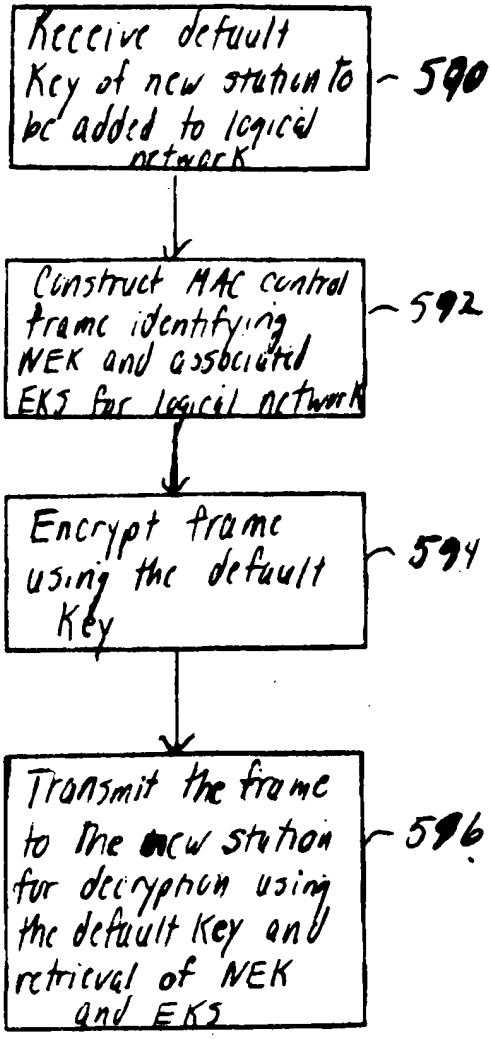
Receive default Key of new station to be added to logical network
590
Construct MAC control frame identifying NEK and associated EKS for logical network
592
Encrypt frame using the default Key
594
Transmit the frame to the new station for decryption using the default Key and retrieval of NEK and EKS
596

FIG. 30

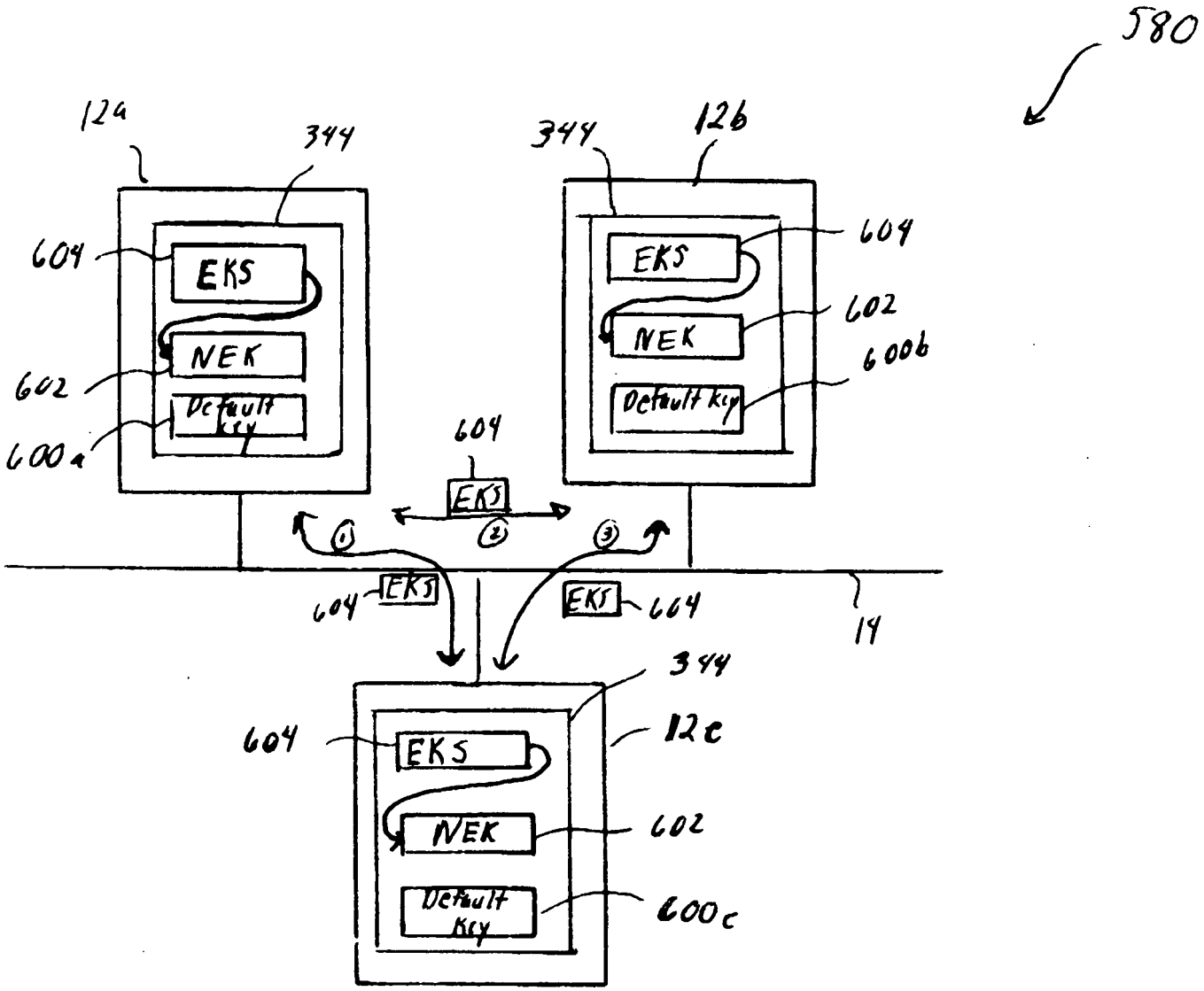

FIG. 31

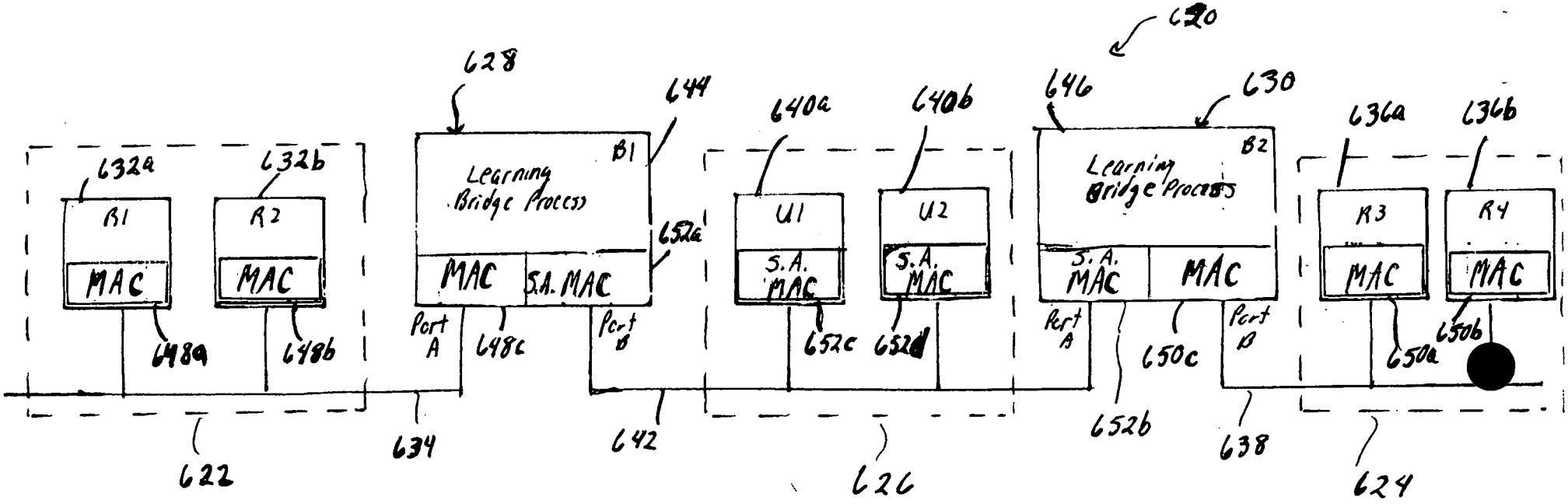

FIG. 32

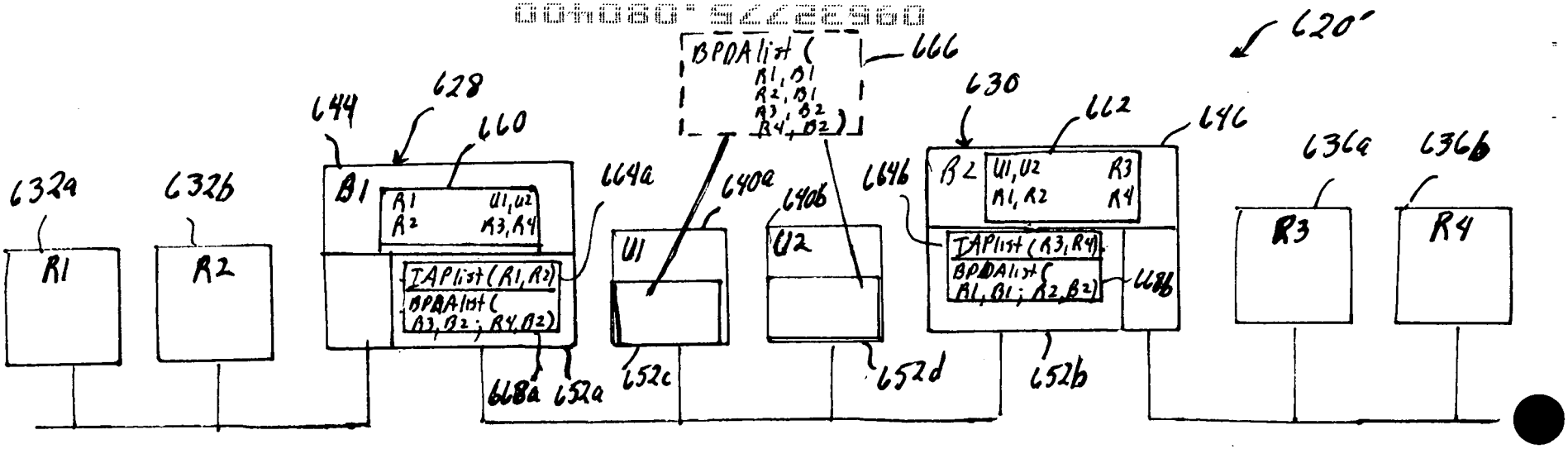

FIG. 33

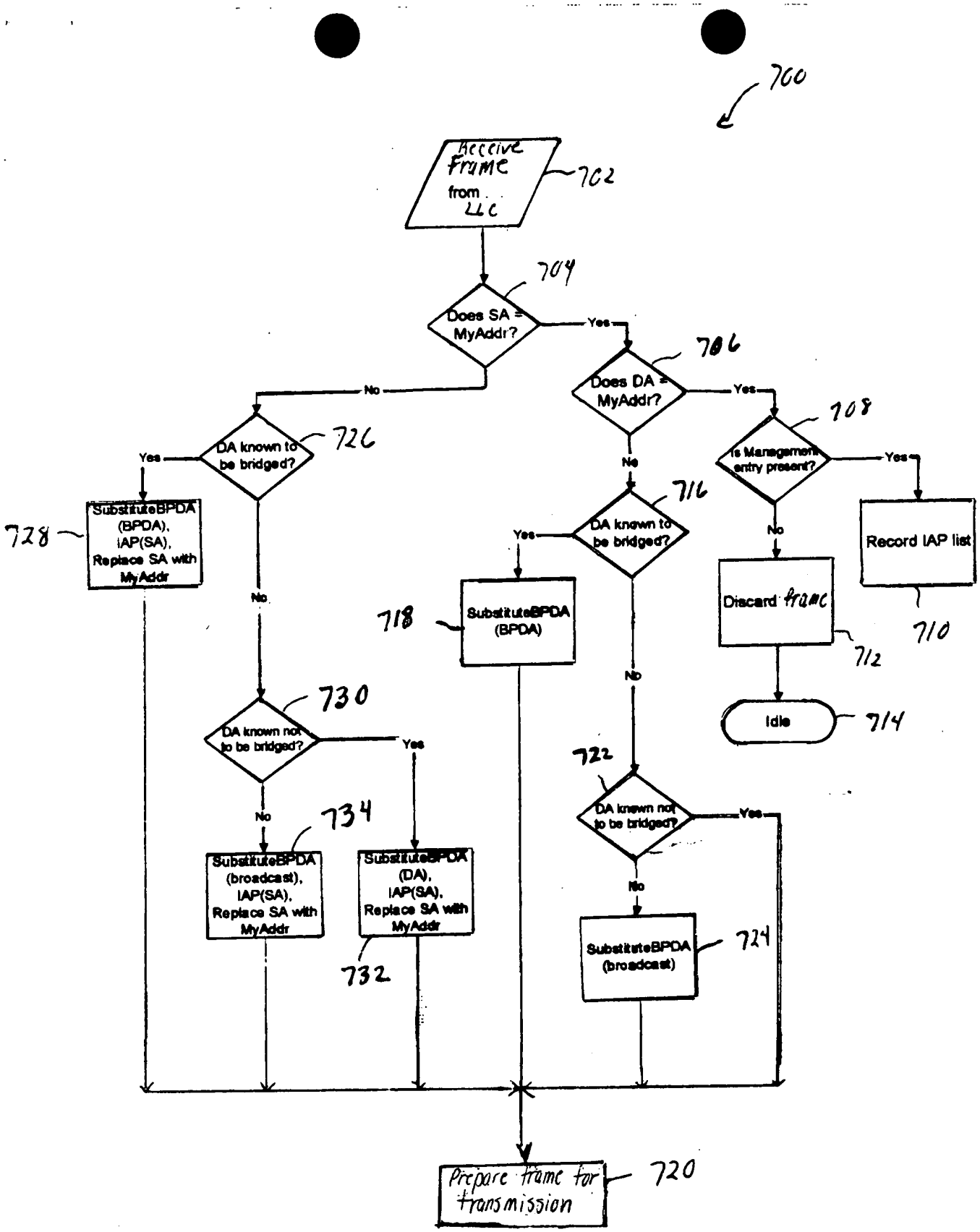
700
Receive Frame from LLC
702
Does SA = MyAddr?
704
Yes
No
Does DA = MyAddr?
706
Yes
No
Is Management entry present?
708
Yes
No
Record IAP list
710
Discard frame
712
Idle
714
DA known to be bridged?
716
Yes
No
SubstituteBPDA (BPDA)
718
DA known to be bridged?
726
Yes
No
SubstituteBPDA (BPDA), IAP(SA), Replace SA with MyAddr
728
DA known not to be bridged?
730
Yes
No
SubstituteBPDA (broadcast), IAP(SA), Replace SA with MyAddr
734
SubstituteBPDA (DA), IAP(SA), Replace SA with MyAddr
732
DA known not to be bridged?
722
Yes
No
SubstituteBPDA (broadcast)
724
Prepare frame for transmission
720

FIG. 34

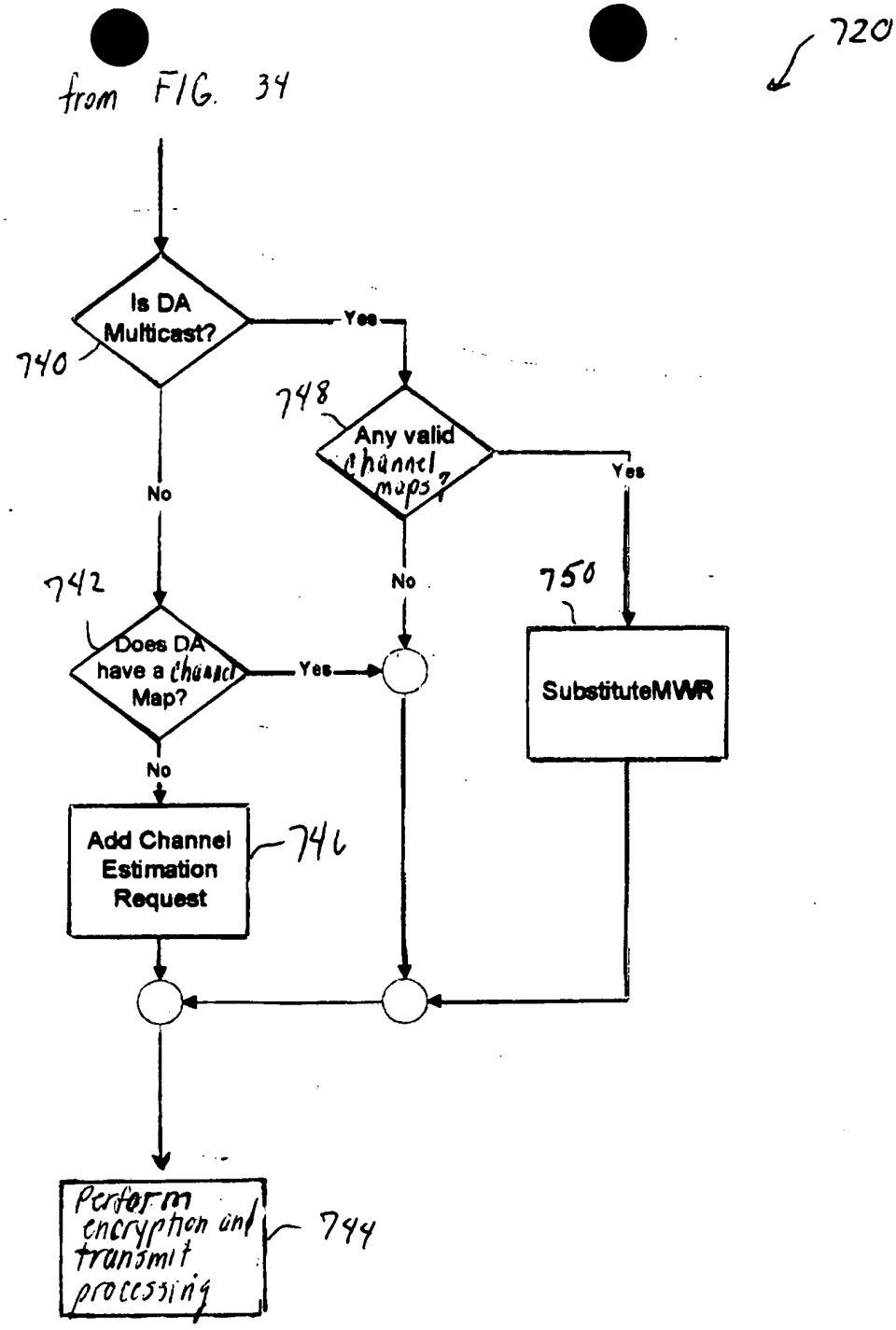
720
from FIG. 34
Is DA Multicast?
740
Yes
No
748
Any valid channel maps?
Yes
No
750
SubstituteMWR
742
Does DA have a Channel Map?
Yes
No
Add Channel Estimation Request
746
Perform encryption and transmit processing
744

FIG. 35

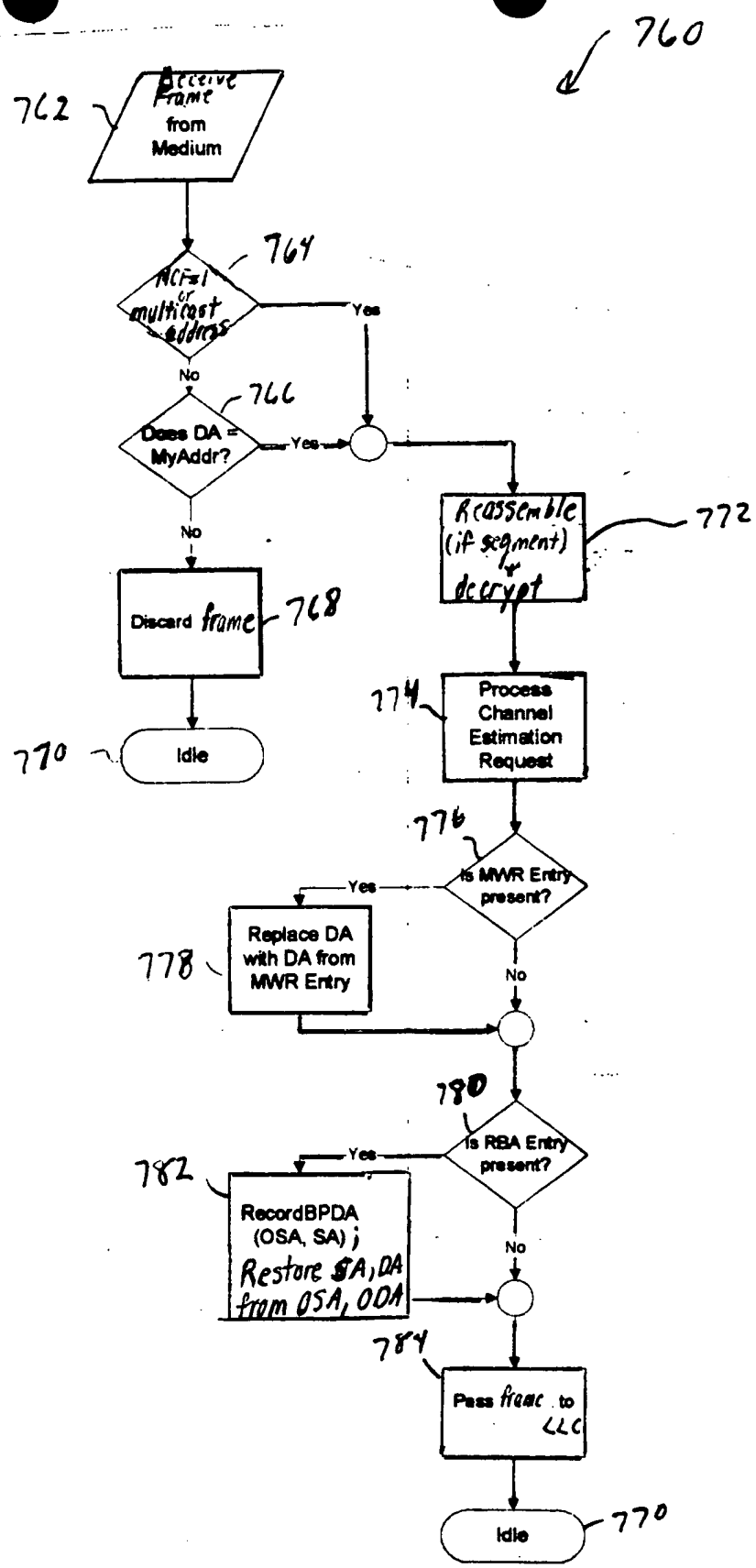
760
762
Receive Frame from Medium
764
ACFal or multicast addrss
Yes
No
766
Does DA = MyAddr?
Yes
No
768
Discard frame
770
Idle
772
Reassemble (if segment) & decrypt
774
Process Channel Estimation Request
776
Is MWR Entry present?
Yes
778
Replace DA with DA from MWR Entry
No
780
Is RBA Entry present?
Yes
782
RecordBPDA (OSA, SA); Restore SA, DA from OSA, ODA
No
784
Pass frame to LLC
Idle
770

FIG. 36

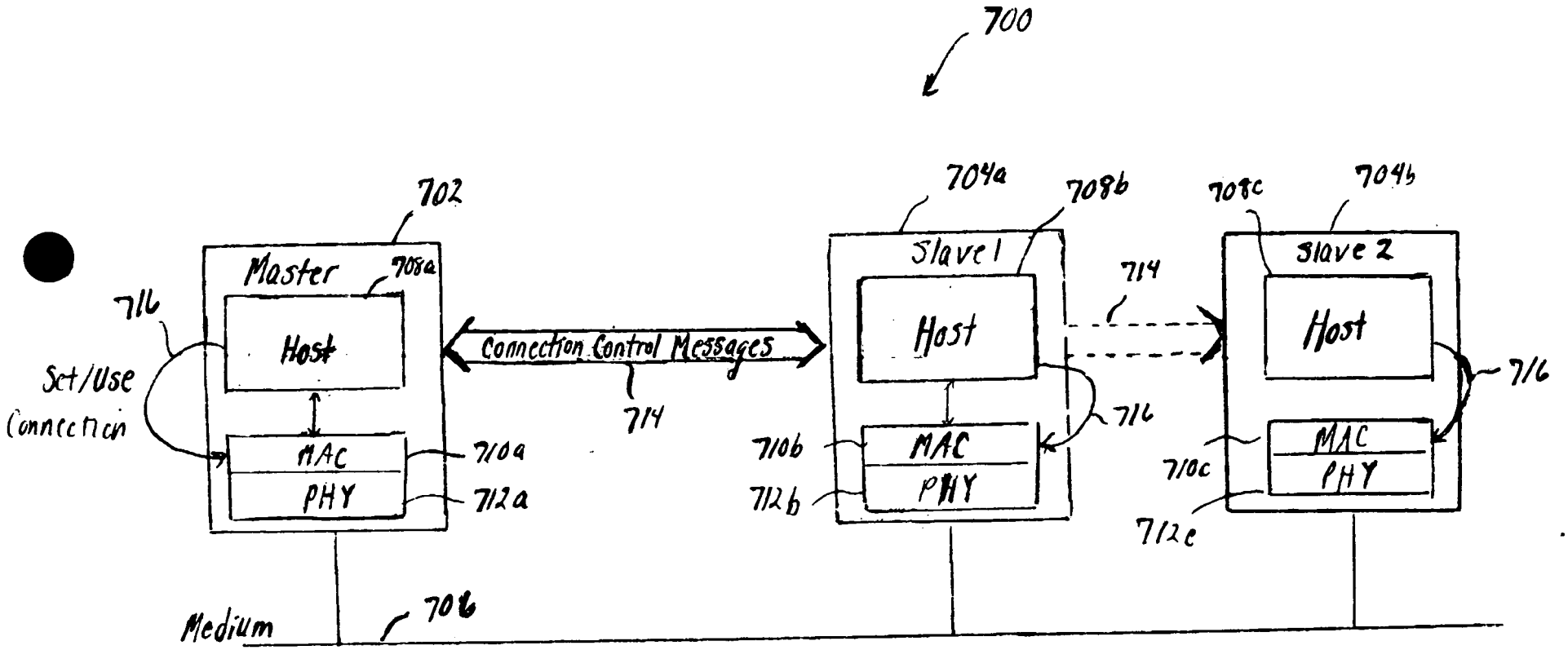
700
702
Master
708a
716
Host
Set/Use
Connection
MAC
PHY
710a
712a
Connection Control Messages
714
704a
708b
Slave 1
Host
716
710b
MAC
712b
PHY
714
704b
708c
Slave 2
Host
716
710c
MAC
PHY
712c
Medium
706

FIG. 37

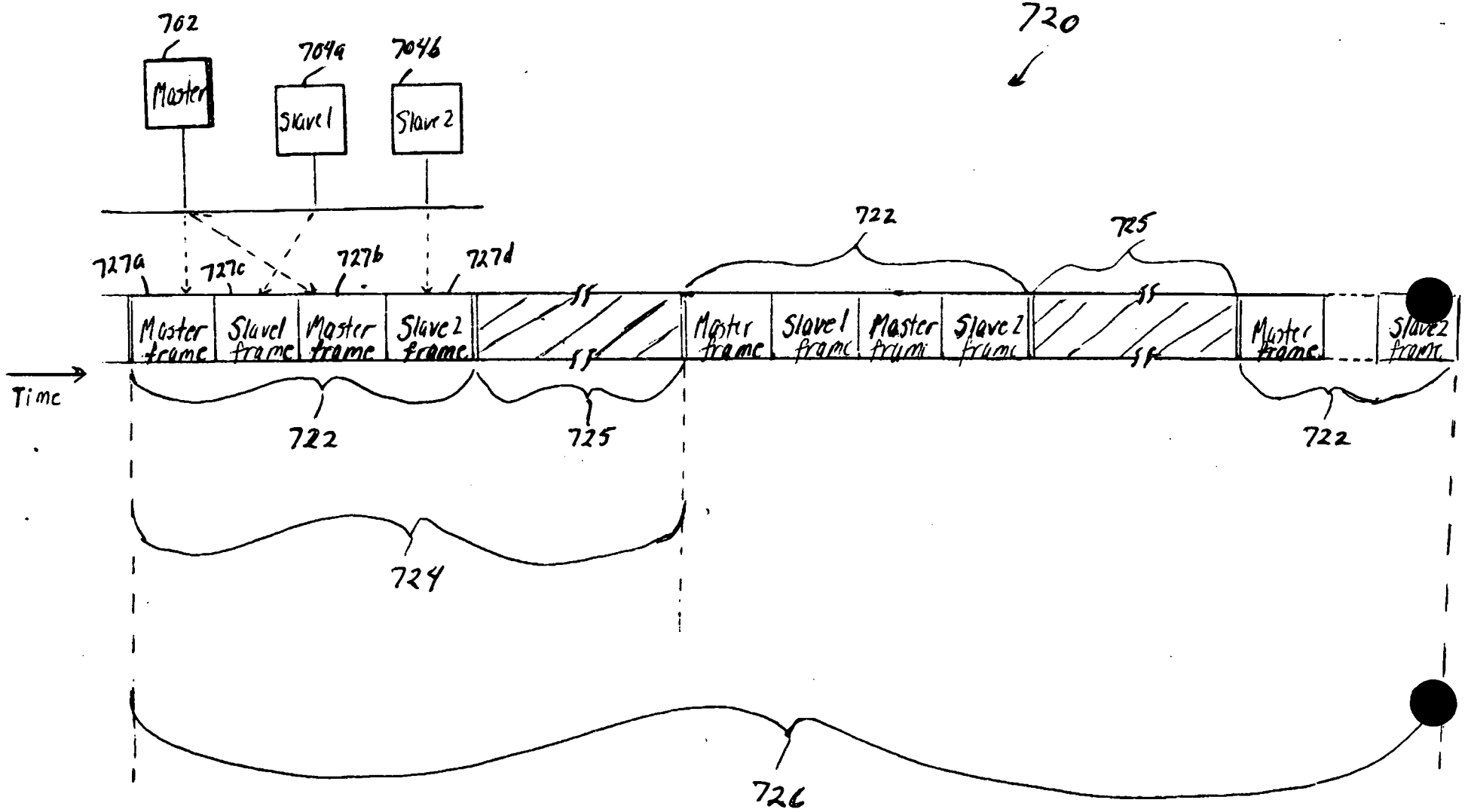

FIG. 38

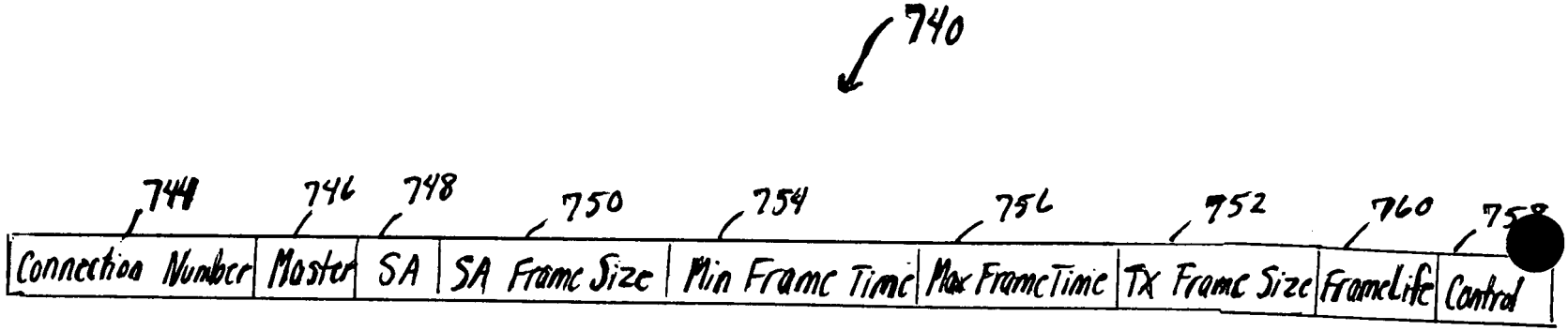

FIG. 39A

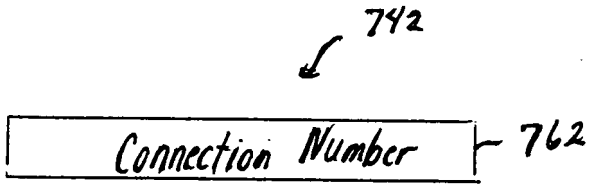

FIG. 39B

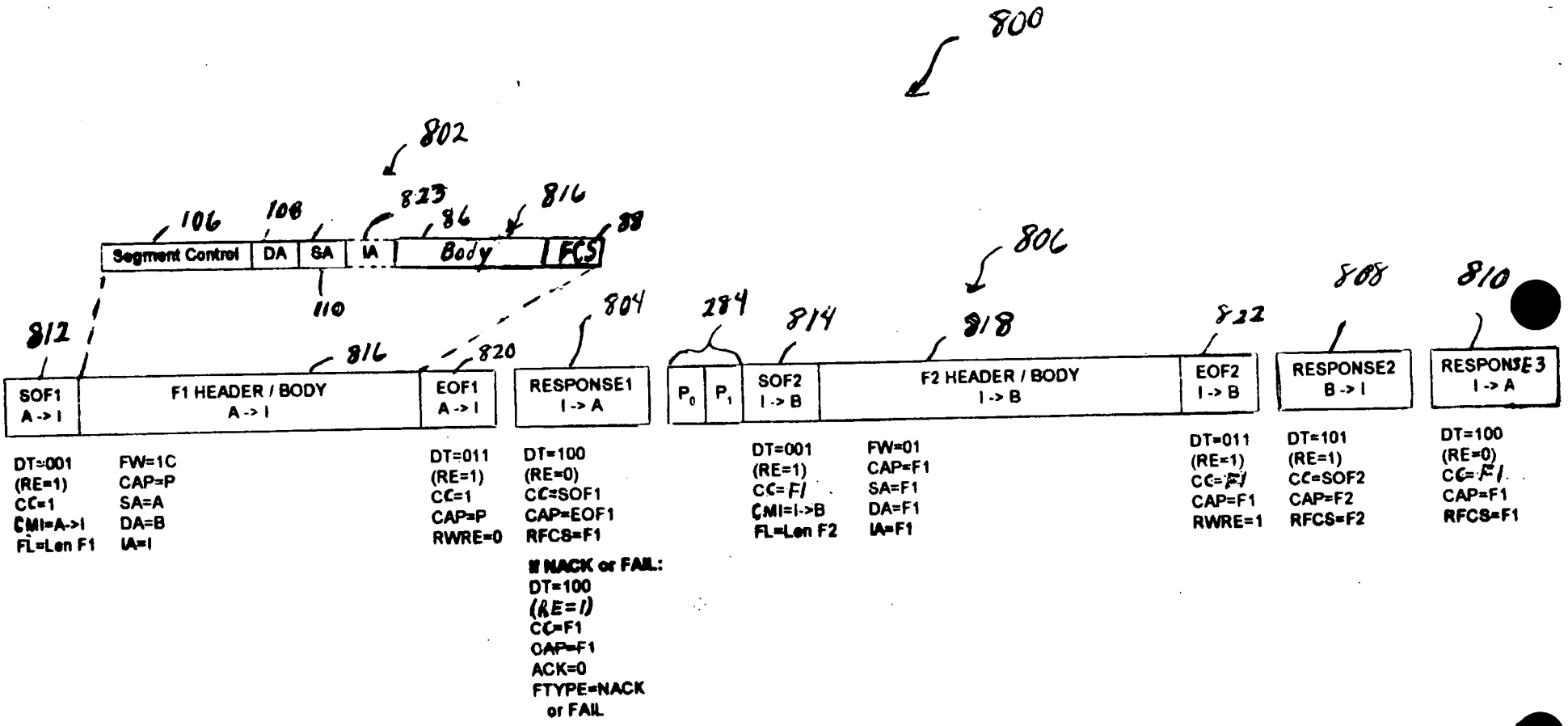
800
802
106
108
823
86
816
88
Segment Control
DA
SA
IA
Body
FCS
110
812
816
820
804
284
814
818
806
822
808
810
SOF1
A -> I
F1 HEADER / BODY
A -> I
EOF1
A -> I
RESPONSE1
I -> A
P0
P1
SOF2
I -> B
F2 HEADER / BODY
I -> B
EOF2
I -> B
RESPONSE2
B -> I
RESPONSE3
I -> A
DT=001
(RE=1)
CC=1
CMI=A->I
FL=Len F1
FW=1C
CAP=P
SA=A
DA=B
IA=I
DT=011
(RE=1)
CC=1
CAP=P
RWRE=0
DT=100
(RE=0)
CC=SOF1
CAP=EOF1
RFCS=F1
If NACK or FAIL:
DT=100
(RE=1)
CC=F1
CAP=F1
ACK=0
FTYPE=NACK
or FAIL
DT=001
(RE=1)
CC=F1
CMI=I->B
FL=Len F2
FW=01
CAP=F1
SA=F1
DA=F1
IA=F1
DT=011
(RE=1)
CC=F1
CAP=F1
RWRE=1
DT=101
(RE=1)
CC=SOF2
CAP=F2
RFCS=F2
DT=100
(RE=0)
CC=F1
CAP=F1
RFCS=F1

FIG. 40

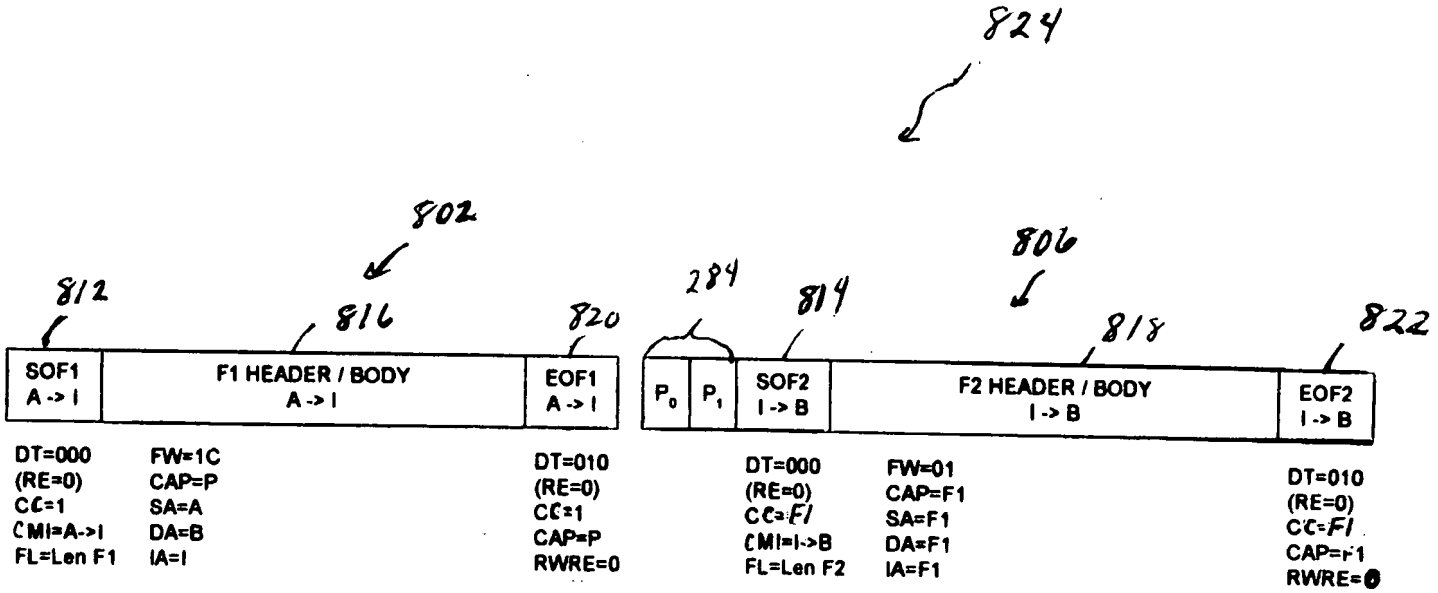
824
802
812
816
820
284
814
806
818
822
SOF1
A -> I
F1 HEADER / BODY
A -> I
EOF1
A -> I
P0
P1
SOF2
I -> B
F2 HEADER / BODY
I -> B
EOF2
I -> B
DT=000
(RE=0)
CC=1
CMI=A->I
FL=Len F1
FW=1C
CAP=P
SA=A
DA=B
IA=I
DT=010
(RE=0)
CC=1
CAP=P
RWRE=0
DT=000
(RE=0)
CC=FI
CMI=I->B
FL=Len F2
FW=01
CAP=F1
SA=F1
DA=F1
IA=F1
DT=010
(RE=0)
CC=FI
CAP=F1
RWRE=0

FIG. 41

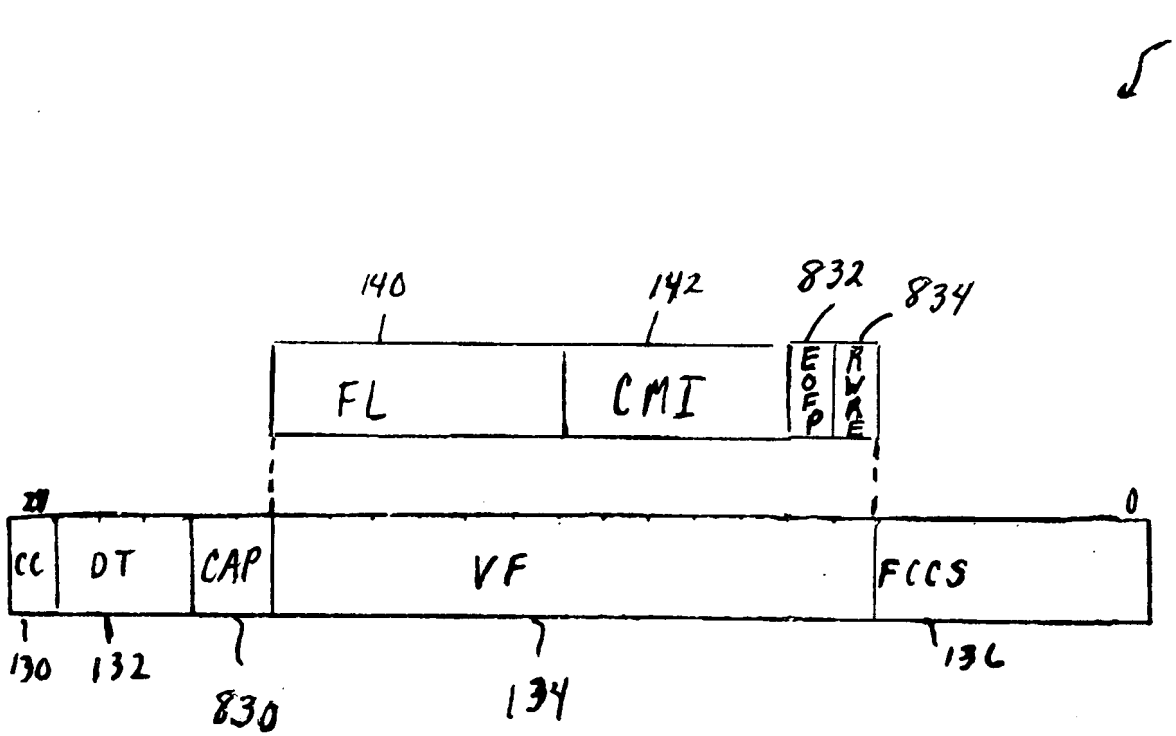

FIG. 42

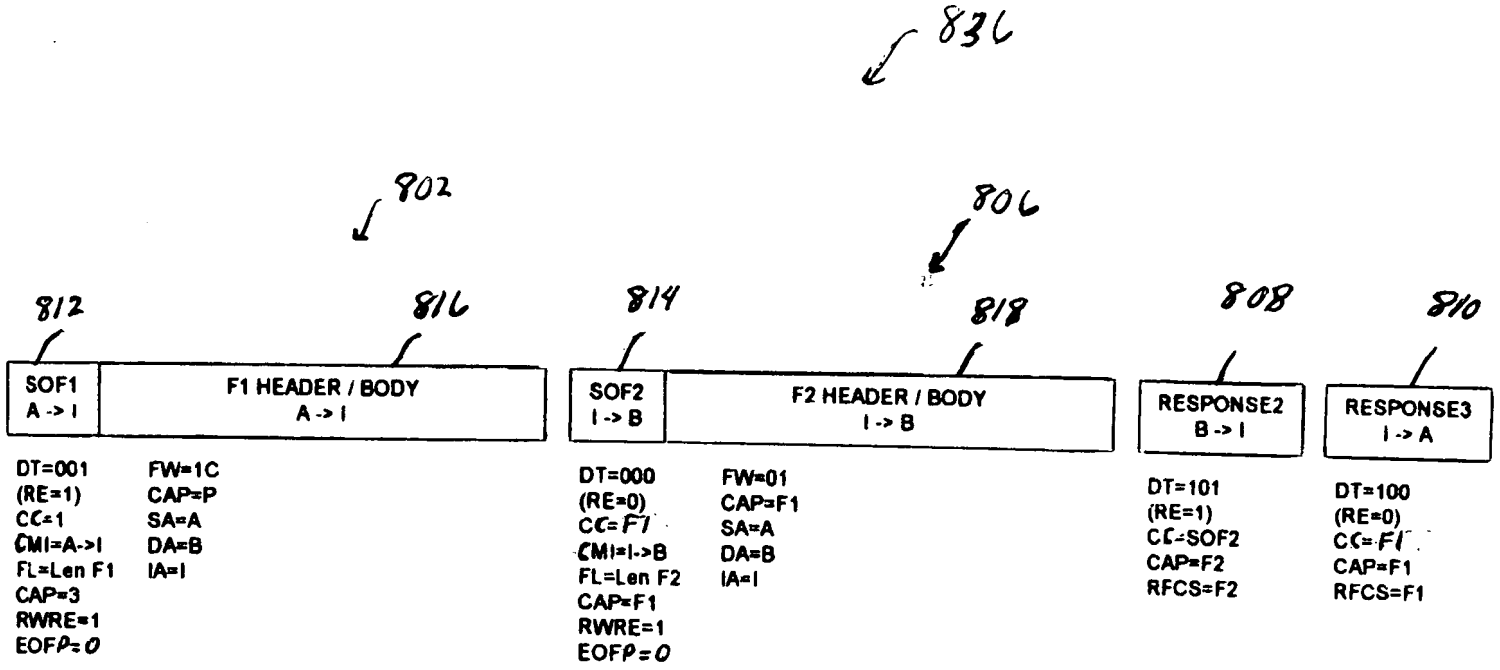

FIG. 43

838

812 816 804

SOF1 A -> I	F1 HEADER / BODY A -> I	RESPONSE1 I -> A

DT=001 FW=1C
(RE=1) CAP=P
CC=1 SA=A
CMI=A->I DA=B
FL=Len F1 IA=I
CAP=3
RWRE=1
EOFP=0

DT=100
(RE=0)
CC=FI
CAP=F1
ACK=0
FTYPE=NACK
or FAIL

FIG. 44

840

812 816 814 818

SOF1 A -> I	F1 HEADER / BODY A -> I	SOF2 I -> B	F2 HEADER / BODY I -> B

DT=001 FW=1C
(RE=1) CAP=P
CC=1 SA=A
CMI=A->I DA=B
FL=Len F1 IA=I
CAP=3
RWRE=0
EOFP=0

DT=000 FW=01
(RE=0) CAP=F1
CC=FI SA=A
CMI=I->B DA=B
FL=Len F2 IA=I
CAP=F1
RWRE=0
EOFP=0

FIG. 45

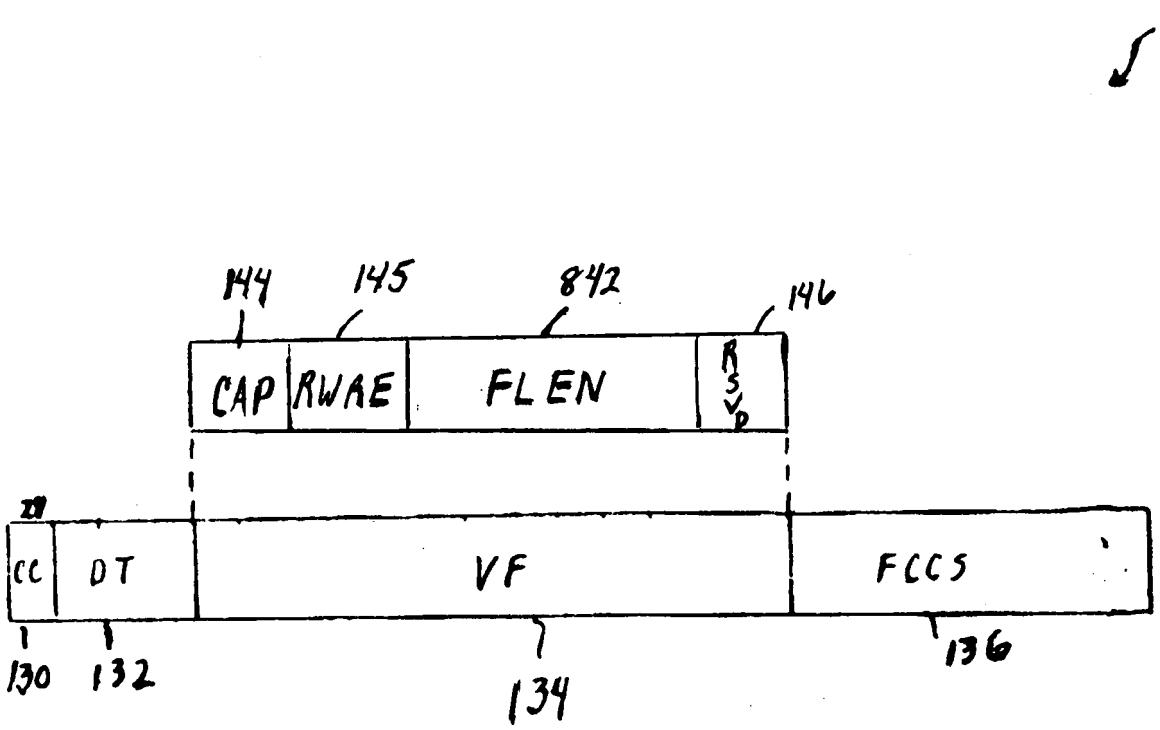

FIG. 46